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ABSTRACT

This instructional unit for use in 11th and 12th grade social studies and science courses contains six classroom lessons dealing with United States energy policy. The overall objective is to help students understand how circumstances, present and proposed legislation, political action, and the Constitution itself become linked in the development of a national policy. The lessons, developed by teachers, are: (1) The Nightmare Life Without Fuel; (2) How Can the United States Reduce Its Dependence on Foreign Oil?; (3) The President's Powers: Where They Come From and How They Are Used; (4) Advantages and Disadvantages of Coal; (5) Toward the Future: The Advantages of Having a National Energy Plan; (6) An Energy Policy is Born. Activities in which students are involved include discussing the short reading selections; analyzing graphs and research; and analyzing a case study dealing with President Carter's energy policy. The time needed to teach each lesson varies from one to three classroom periods. All teacher and student materials are included. Also included for the teacher's reference is a brief summary of President Carter's energy policy. (Author/RM)

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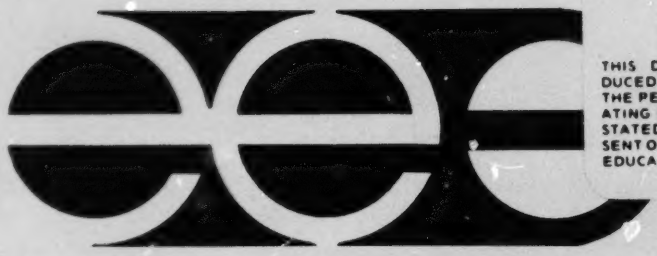

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Interdisciplinary
Student/Teacher Materials
in Energy, the Environment,
and the Economy

U.S. Energy Policy - Which Direction?

Grades 11 and 12

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← WHICH DIRECTION? →

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This instructional unit was produced by NSTA's Project for an Energy-Enriched Curriculum under contract #EX-76C-10-3841 with the Education Programs Branch, Office of Public Affairs, the U.S. Energy Research and Development Administration (now U.S. Department of Energy). The NSTA project staff is as follows:

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"U.S. Energy Policy: Which Direction?" is the product of a writing session held at the University of Maryland during Summer 1977. The following teachers were the main contributors to this unit:

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Jim Bishop of the Office of Energy Policy and Planning, now Director of the Office of Public Affairs, Department of Energy, gave generously of his time and provided much of the background information which contributes to the unit's realistic flavor.

December 1977
John M. Fowler
Project Director

U.S. Energy Policy -- Which Direction?

A Study of Executive Decision-Making

One of the President's main roles is chief policy-maker of the country. In this role, he proposes to the Congress laws which, in his judgment, will be good for the nation. He has to take a position on questions of public concern that are confusing or dividing the people. He must have both the judgment to recognize what can be done and the political skill to achieve it. If he runs for reelection, it must be on the basis of his record. He must try to persuade the Congress and the people to support his views and to have his program enacted. Without this support he cannot govern.

Presidential action is not simple and clear-cut when a decision has to be made on an issue that is broad in scope and extremely complex. Such a measure confronted President Carter when he accepted the responsibility for drawing up the nation's first comprehensive energy plan.

For several years, people have gradually become aware of a growing energy problem. Residents of both large and small cities have experienced blackouts similar to the most recent, July 1977, in New York City, as well as electrical brownouts that cause lights to go dim and the television picture to become smaller. Then, in winter of 1973, came the Arab oil embargo and long lines at the gasoline pump became a familiar sight. Since that time, oil imports have risen steadily, making the country more and more dependent on foreign oil to keep the industrial and transportation systems humming. The energy crisis has been felt most noticeably in the pocketbook as the price of energy in almost every form has risen sharply.

By 1976, many state governments had passed gasoline conservation laws, and a national speed limit on federal highways had been established. However, changes in high energy use life-styles had not occurred. What to do about this? Citizens in some

states were examining this problem and starting to act. But not enough were. What was needed was a national policy that would organize the people in making decisions about how they would live with their fellow citizens in an expensive energy era.

This unit offers a specific example of what a President can do in making policy, and what was done. Since a case study is a vital part of a social studies course, we introduce in the unit the basic elements of a decision-making case: the facts or evidence, the positions pro and con, the controversy, the political action, and the follow-up.

We see "U.S. Energy Policy: Which Direction?" as a study of Presidential decision-making that can be offered to students as a substitute for the case study of the Cuban Missile Crisis, the one so often used in current texts. While not as spectacular as the Missile Crisis, the Energy Policy unit serves to illustrate how circumstances, present and proposed legislation, political action, and the Constitution itself, become linked in the development of a national policy. Like the Missile Crisis, it will stand as a decision that reached directly or indirectly into the lives of all Americans and into the lives of most of the other people of the world.

The lessons in this unit are as follows:

Student Activity	Title	Target Classes
1	The Nightmare Life Without Fuel	Social Studies and Science

A motivational reading presenting what life in 1997 could be if action is not taken now. How much does the U.S. depend on energy today?

2	How Can the United States Reduce Its Dependence on Foreign Oil?	Social Studies and Science

Graphs and tables are presented which show the existence of an energy problem for the United States, basically that the U.S. is becoming more dependent upon increasingly expensive foreign oil. A possible solution is recommended: shift to coal.

Student Activity	Title	Target Classes
3	The President's Powers: Where They Come From and How They Are Used	Social Studies

Students look at the powers of the President, both in how they are exercised and how they are limited. The lesson focuses on the real basis for Presidential power, the use of persuasion, in many examples.

4	Advantages and Disadvantages of Coal	Social Studies and Science

Students are given a fact sheet comparing the positive and negative effects of increasing coal production in order to solve our energy problem. Discussion is encouraged and no conclusions are expected; instead the lesson is designed to show how every decision has at least two sides.

5	Toward the Future: The Advantages of Having a National Energy Plan	Social Studies

Students examine the concepts of forecasting and planning by looking at their own future plans as well as the energy plans of the government. The activity gives students an understanding of the importance of planning and how planning and forecasting interact.

6	An Energy Policy is Born	Social Studies

A directed reading on the evolution of the specifics of the Carter energy plan. The reading traces the steps taken by the Administration to develop and to begin to explain the policy to the American people.

7	Appendix: Summary of President Carter's Energy Policy	Social Studies

A brief summary of the President's policy is included for the teacher's reference.

1 The Nightmare Life Without Fuel

Overview

This introductory lesson presents students with a view of the future when there are not enough energy resources left to provide Americans with the kind of life they have become accustomed to.

We suggest that when you present the reading, remind the students that they are to read it as if the events were to become reality. Then ask your students to write a summary of the changes life without energy would bring.

Conclude the lesson by asking, "How could planning prevent some or all of these things from happening?" Discuss the implications of decreasing domestic supplies of oil and increasing dependence on imported oil. Use the points raised as a springboard for a discussion of the reasons why an energy policy (or the lack of one) can affect the way of life of all Americans.

Objectives

Students should be able to:

1. Compare and contrast present and future energy sources basing their statements on the reading.
2. Explain how decreasing energy supplies affect all social and economic levels of American life in the nightmare future.
3. Explain how an energy policy can affect all Americans.

Time Allotment

One class period

Teaching Strategies

Since this lesson is designed primarily to interest students in the subject of energy and the necessity for having an energy plan for the future, we suggest you present the reading with a minimum of introduction. (You may wish to mention that the article presents only one view of the future, and that points of disagreement should be brought up during the discussion part of the lesson.)

Have students read the article by Isaac Asimov. Then answer the questions. These can be answered in writing or used as guide points during the opening discussion period.

Several optional activities might be worthwhile to try in your classes. Students might illustrate the reading or write their own version of an energy-poor existence. Or they might investigate groups living in the United States that have developed low energy-use styles of living.

The Nightmare Life Without Fuel

People talk about an energy "crisis" all the time, but there are no long lines for gasoline, the cold winter is over, we have enough electricity to run our appliances, and gasoline prices aren't going up that fast anymore. So, where's the crisis? Well, maybe it's like President Carter says, "Our energy crisis is an invisible crisis, which grows steadily worse -- even when it is not in the news." So, how can we see an invisible crisis? Two ways will be given: One is a vision of the future which can only be called a nightmare. By looking at this, we can see what we hope will not come to pass. Then, we will look at several graphs to see if the present problem could actually get that bad.

The article "Nightmare Life Without Fuel," was written by Isaac Asimov, who is both a science fact and science fiction writer. As you read the article, think about the following question: Is this the way the future will really be like, or will it be different? After finishing the reading, answer the following questions.

Paragraphs are numbered to simplify your search for the answers.

1. In the first paragraph, the author says that this view of the future "need not prove to be accurate." What does he say would cause the vision to become real? *(If inefficient use of energy, population growth, and the inability to find an alternative source of energy continue, the author feels that this future could be realistic.)*

2. What is meant in Paragraph 3 when the cities are described as being "the great mineral mines and hardware shops of the nation?" *(The phrase means that the cities are being recycled into usable materials, such as iron and steel, and finished hardware items are being reused.)*

3. The author describes the end of the automobile in Paragraph 4. It is mentioned that "rationing was introduced to 'equalize sacrifice'," but that the cars just vanished anyway. What do you think was rationed? How do rations "equalize sacrifice?" *(Gasoline was probably rationed. Rations "equalize sacrifice" by allowing people to use only a specific amount of the substance. Thus, all will sacrifice equally.)*

4. Throughout the article, the world of 1997 looks like a nightmare. The author, however, sees some advantages in the life of 1997 over that in 1977. Name four advantages that this energy-poor life has to offer.

(Advantages which are mentioned include: A. Air is cleaner. B. People have fewer colds. C. Crime rate has dropped. D. Population growth has slowed. E. Military spending is lower, armies are gone.)

5. Why is life worse for the suburban dweller in 1997 than for those living in the city (see Paragraph 8)? *(Suburbs depended upon the auto, and with the car gone, the suburbs suffer. Students may wish to discuss the idea that without the car, the suburbs would be very different.)*

6. In Paragraph 10, the author says the U.S. is still purchasing "some trickle" of oil from other nations. How is the U.S. paying for this energy? How does this affect life for the American people? *(Food is used to pay for the small amount of imported oil, thus reducing the amount of food for domestic use.)*

7. What sources of energy does the author say the U.S. might be using in 1997? Which seems to be relied upon the most? How does this differ from the U.S. in 1977? *(The sources of energy used in 1997 include: A. Small amounts of oil. B. Coal. C. Muscle power - walking, bicycling, etc. D. Electricity - generated by burning coal, probably. The most used seems to be coal. Students should understand that in 1977 the major source of energy in the U.S. is oil.)*

8. What does the author mean by the last five lines, "And what can we do to prevent all this now? Now? Almost nothing. If we had started 20 years ago, that might have been another matter. If we had only started 50 years ago, it would have been easy." *(The author is saying that if planning had taken place either 25 or 50 years earlier, the problems of 1997 could have been avoided.)*

2 How Can the United States Reduce Its Dependence on Foreign Oil Sources?

Overview

This lesson is a natural follow-up one to the previous The Nightmare Life Without Fuel, as students might be expected to ask: How bad is the energy crisis? Could things really get this bad? Through an examination of the information in a set of graphs and tables, your students should be able to infer that a large part of the crisis is created by increasing demand for oil, and the costliness of imported foreign oil, on which the U.S. is becoming dependent. From this dependence arises a whole set of political implications. In seeking alternatives to our heavy dependence on one main fuel, your students may inquire about coal. The pressure of public opinion stimulated by the President, may reopen the issue of whether coal can give us some lead time by helping to conserve existing domestic oil supplies, and lessening the nation's dependence on foreign oil. Coal, of course, brings with it a host of environmental problems that would demand solving. As one expert put it: The good thing about coal is that there's lots of it; the bad thing is we might have to use it.

Learning the facts about coal and oil supplies and the nature of the energy crisis may lead to a discussion of the necessity for a national energy policy, which is to be taken up in the next lesson.

Objectives

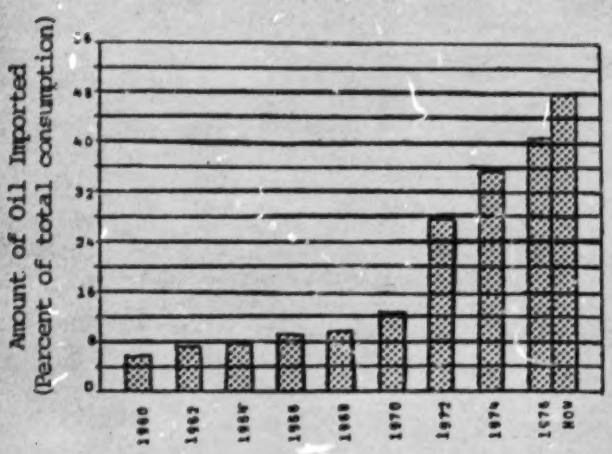
Students should be able to:

1. Describe the present U.S. supply and demand for energy from acquiring information from graphs.
2. Infer from prepared material (graphs and tables) the nature of the U.S. energy crisis.
3. Make tentative hypotheses about the part coal should play in the formation of a national energy policy.

Materials	Dittoed class sets of student handouts for this lesson
Time Allotment	One-two class periods
Teaching Strategies	Have a student lead the class in a recall session during which the main points about life-style changes that would occur in an energy-poor age are discussed, drawing from the list of changes mentioned in the article, The Nightmare of Life Without Fuel. Then introduce the gist of the lesson by asking: "What is the energy crisis all about? Is it real -- or something created to raise prices? What have you read about the energy crisis that seemed important?" You may want to point out to the class that one way to settle something in their own minds is to define the problem, taking on an issue one step at a time. Distribute the sets of graphs and tables. Then, help the students answer the questions on each handout.
Introducing and Developing the Lesson	
Concluding the Lesson	Use the final page of the handouts as an informal evaluation and as a springboard into the next lesson.
References	For more information on price per barrel, we suggest that you use Platts Oilgram Price Service. Call the American Petroleum Institute, Washington, D.C. Inquiries about the latest figures on imports can also be addressed to the same source.

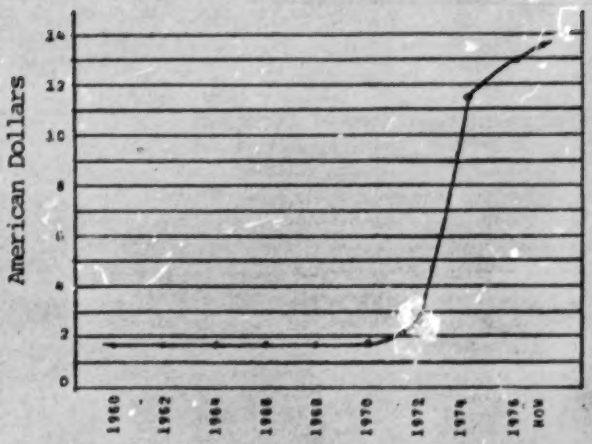
GRAPH # 1

UNITED STATES OIL IMPORTS



GRAPH #2

PERSIAN GULF OIL PRICES



Answers to Student Questions

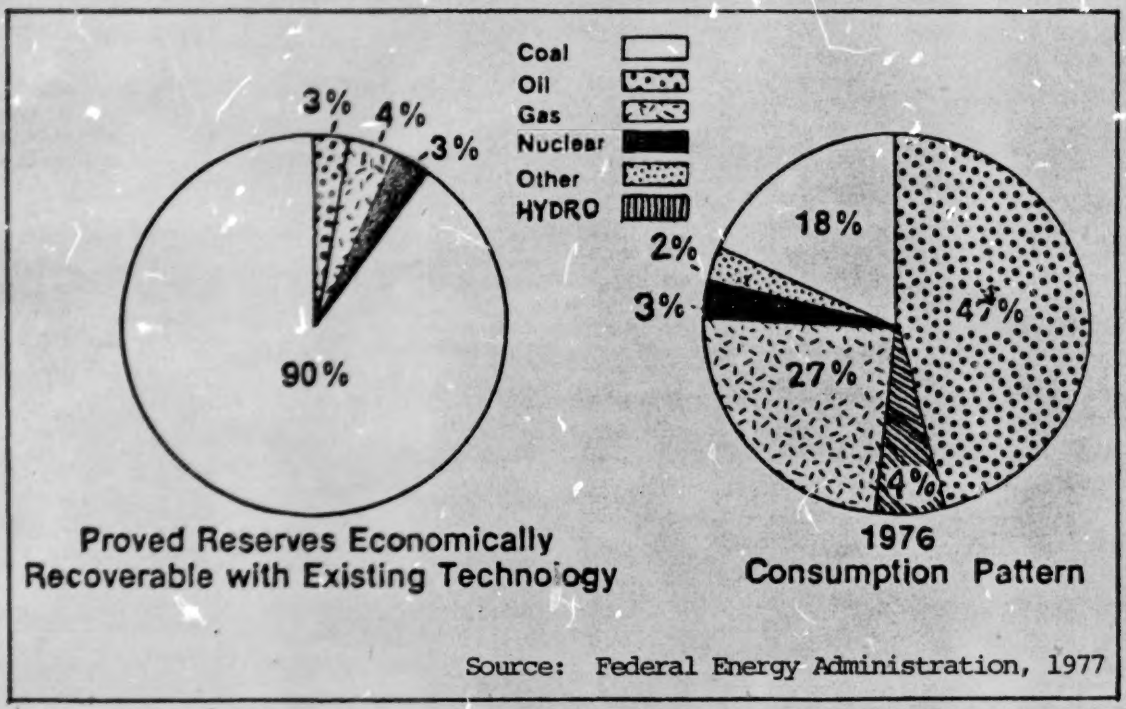
1. Between which years did the largest increase in the price of oil take place? *(1972-1974.)*

2. As the price of oil increased, what has happened to the percent of oil that the U.S. imports? *(As oil has become more expensive, the U.S. has increased its imports.)*

3. In 1964, why would Americans not feel that there was an "energy crisis?" *(In that year oil was cheap, and most produced domestically, not imported.)*

4. Why would an American national security expert be so concerned by the information contained in these graphs? *(As our dependence upon foreign oil increases, so does our vulnerability to pressure from the oil producing nations. This is something that the national security experts are worried about.)*

Energy Outlook



Questions

1. What is the major energy source used to power the nation today? What percentage of our proven reserves is this source? *(Major source -- oil, 3% of reserves.)*

2. What percentage of our energy do we get from coal today? Coal is what percentage of our reserves? *(18% use of coal, 90% of reserves.)*

Questions

1. If a method is discovered that allows oil companies to extract oil from areas where they cannot do so today, how will this affect the lifetime calculations in the table above? *(If a new method is found, it would extend the lifetime estimates since it would increase the "ultimately recoverable resource" estimate.)*

2. Why is it important to use a conservative estimate of a resource's lifetime instead of a more optimistic estimate in making energy policy decisions? *(Conservative estimates are always used in decision-making since we cannot count on new technologies, or new reserves. If we did count on them, and they didn't develop, then the policy would be meaningless.)*

   Another confusing phrase is "assumed doubling time." This is another way of saying that given the consumption of oil in the U.S. in 1973, this is the number of years it will take for that consumption to double. As you can see, if there is a limited amount of a resource, its use cannot double forever without running out.)

Questions

1. If we consume the same amount of our own oil today as we did in 1973, our own oil resources will last *80* years. If consumption keeps increasing in the future at the same rate that it did in the past, we will double our consumption of oil in *16* years. This means that, assuming that our oil consumption continues to increase, we have only *35* years of petroleum left in the United States.

2. The formula for obtaining the doubling time is:

   Time double = 70 years divided by r(the growth rate in percent per year.)

   This means that if oil consumption grows at 4.4% per year, the doubling time is 70/4.4 = 16. What would happen to the doubling time if the rate of consumption decreased to 2%. *(Doubling time = 35 years.)* Would the lifetime of a resource increase or decrease if the rate at which it is consumed decreases? *(Lifetime estimate would increase.)*

3. Based on the information contained in the table, what energy resource will last us the most number of years? *(Coal.)*

For each of the following statements, mark "T" if it is true based on the information provided in the graphs and tables, "F" if false, and "OT" if you can not tell based on the information provided. Explain your answers.

F 1. The increased cost of petroleum since 1973 has caused the United States to import less and less petroleum since then.
Reason: As cost of oil has increased from $3 to $13, the amount imported has risen from 6 percent to 40 percent.

F 2. With 693 years of coal, we have no real energy crisis. Let people hundreds of years from now worry about the so-called "energy crisis."
Reason: We have 693 years of coal only if consumption is constant. If consumption increases, much less is available. We cannot use coal for all our energy needs.

OT 3. The reason we don't use more coal than we do is because the burning of coal produces air pollution.
Reason: No information on air pollution is given on these graphs.

F 4. The world reserves of oil will outlast the supplies in the United States by a decade.
Reason: Both will last approximately 35 years.

T 5. The world has doubled its consumption of oil in less than a decade.
Reason: Yes, it doubled in nine years.

ESSAY

In a well-written paragraph, summarize the energy crisis. Include statistics that support your conclusions and recommendations you feel the President should act upon.

Students should include the following points:

1. *While we depend upon oil for almost half our energy, it represents a small percentage of our supply. Thus, we have become dependent upon foreign oil.*
2. *While we have imported increasing amounts of foreign oil, it has become more costly.*
3. *Coal represents almost 90 percent of our energy resources, and thus could be substituted for the imported oil.*

3 The President's Powers: Where They Come From and How They Are Used

Overview

In this lesson, students are introduced to the duties and responsibilities of the President of the United States. While it is obvious that he is Chief of State, the idea that he has many other roles may not be. One purpose of this lesson is to show that the President's power is derived from both Constitutional and traditional sources with his persuasive powers coming into play as a means for political action.

Objectives

Students should be able to:

1. State the six roles of a President.
2. Distinguish between the Constitutional and traditional roles of the President.
3. Identify which role of the President is being exercised in a specific example.
4. Explain how the President's powers are based upon his ability to use persuasion.
5. Identify the forces which limit the President's powers of persuasion.

Target Audience

Civics, American government, and U.S. history courses

Materials

Class sets of student handouts
Copies of Constitution of the United States (see reference section in high school texts)

Time Allotment

Two-three class periods

Teaching Strategies

Introducing the Lesson

Ask students to list some of the responsibilities of the President of the United States. Have a student volunteer record the ideas, then read back the list while the rest of the class attempts to classify them under appropriate headings: Chief of State, Diplomatic Duties, Commander in Chief, Chief Executive, Chief Lawmaker or Legislator, Head of His Political Party, etc.

Developing the Lesson

Part 1

Discuss how President Carter accepts these various roles. Tell students they are going to read about the formation of a national energy plan under the encouragement of President Carter after they examine the Constitutional, the traditional, and the persuasive powers of the Presidency. Have students complete the chart and answer the questions at the end of the lesson.

Part 2

How does the President Put His Program into Action?

Tell the students that they have now studied a President's various responsibilities, but how does he get things done? Do people always do what the President wants just because the President wants it? Do you always do what others want you to do? Does anyone? How far could a President get if he always ordered people around? Constitutionally, because of the separation of powers provisions, the President does not have the power to order Congress around. So how can he develop and implement a program?

Concluding the Lesson

You might mention that some political scientists suggest that the constitutional powers of the President are limited. Congressional authority to appropriate all money, pass on all major presidential appointments, and actually write the legislation the President suggests far exceeds the President's powers. What makes the presidency powerful, they conclude, is the ability of the man to persuade people to do things his way, to compromise with opponents when necessary, and to keep confrontation to a minimum. This is the basis of his real power, they claim. The charts on the next pages list some of the persuasive power of a President and some of the persuasive powers which can be used on the President. Read the charts carefully, and then answer the questions.

QUESTIONS

1. For each of the Presidential roles, described above, mark a "C" for those parts which stem from the Constitution and a "T" for those parts which are grounded in custom and tradition. If marking a "C", also indicate the Article, Section, and the Paragraph of the Constitution which supports your answer. Each role may involve the use of several constitutional authorities and/or traditions. Be sure to list all of them for each role.

Presidential Role	C or T	If "C", the Constitutional Authority is
Chief of State	1. *T*	
Chief Diplomat	1. *C-treaties*	*Art. II, Sec. 2, Par. 2*
	2. *C-receives ambassadors and gives recognition*	*Art. II, Sec. 3, Par. 2*
	3. *C-appoints ambassadors*	*Art. II. Sec. 2, Par. 2*
Commander-in-Chief	1. *C-head of armed forces*	*Art. II, Sec. 2, Par. 1*
	2. *C-controls weapons*	*Art. II, Sec. 2, Par. 1*
	3. *C-domestic use of troops*	*Art. II, Sec. 2, Par. 1*
	4. *T-asks for declaration of war*	*Art. II, Sec. 2, Par. 1*
Chief Executive	1. *C-use of Executive Board*	*Art. II, Sec. 2, Par. 1*
	2. *C-responsibilities of President*	*Art. II, Sec. 1, Par. 1*
	3. *C-hiring and firing*	*Art. II, Sec. 2, Par. 2*
Chief Legislator	1. *C-recommend legislation*	*Art. II, Sec. 3*
	2. *C-address Congress*	*Art. II, Sec. 3*
	3. *C-veto power*	*Art. I, Sec. 7, Par. 3*
	4. *T-President has legislative initiative*	
Head of His Party	1. *T-head of the party*	
	2. *T-appointment of party faithful to jobs*	
	3. *T-campaigns for supporters*	
	4. *T-advances philosophy of his party*	

Note: Students will need a copy of the Constitution, available in any standard civics textbook.

2. For each of the Presidential roles, list the Constitutional checks and balances, if any, which restrain the President. Do the Presidential powers which stem from custom have any checks on them?

Presidential Role	C or T	Check on Presidential Power
Chief of State	1. T	*No check*
Chief Diplomat	1. C	*Two-thirds approval by Senate*
	2. C	*No check*
	3. C	*Approval by Senate*
Commander-in-Chief	1. C	*No check*
	2. C	*Only Congress can declare war, and appropriate money*
	3. C	*Congress may appropriate money*
	4. T	*Congress may reject*
Chief Executive	1. C	*No check*
	2. C	*No check*
	3. C	*Senate approval for top officials and military officers*
Chief Legislator	1. C	*Congress may reject, or modify*
	2. C	*No check*
	3. C	*Congress may override with two-thirds vote*
	4. T	*Congress may reject or modify*
Head of His Party	1. T	*No check*
	2. T	*Congress may reject appointees*
	3. T	*No check*
	4. T	*No check*

3. Below are a series of Presidential actions relating to the energy crisis. For each indicate the Presidential role or roles he is performing, by using the following abbreviations:

S - Chief of State
D - Chief Diplomat
C - Commander-in-Chief
E - Chief Executive
L - Chief Legislator
P - Head of Party

a. The President and the Secretary of State meet with the Saudi Ambassador concerning future OPEC prices, and the Ambassador's interest in buying more arms from the United States. The President invites the press in for coverage of the meeting and has breakfast with Congressional leaders the following morning to brief them on the meeting.

-1- -2- -3- -4-

1. D 2. D/C 3. D 4. L

b. The President has sent to Congress legislation regarding surface mining in the Rocky Mountain states. Several members of his own party from that area haven't yet decided to support it. He telephones them and ask for their support and expresses interest in their up-coming election and pet legislation which has yet to make it out of the subcommittee.

-1- -2- -3- -4-

1. L 2. P/L 3. P 4. L

c. The President vetoes Congressional legislation -1- on air pollution standards inviting the press in to explain why he thinks the legislation favors only one group at the expense of all the other people. -2- His press secretary announces later the the President will speak at the national convention of environmentalists in Denver. -3-

1. • L 2. L 3. L/E

d. The President schedules a 15-minute photo session and speech with children who won a national poster contest on saving energy around the house. -1-

1. S

e. The President meets with his advisor on energy, the Director of the Central Intelligence Agency and the Secretaries of State and Defense about recent newspaper reports concerning a future Middle East oil embargo. -1-

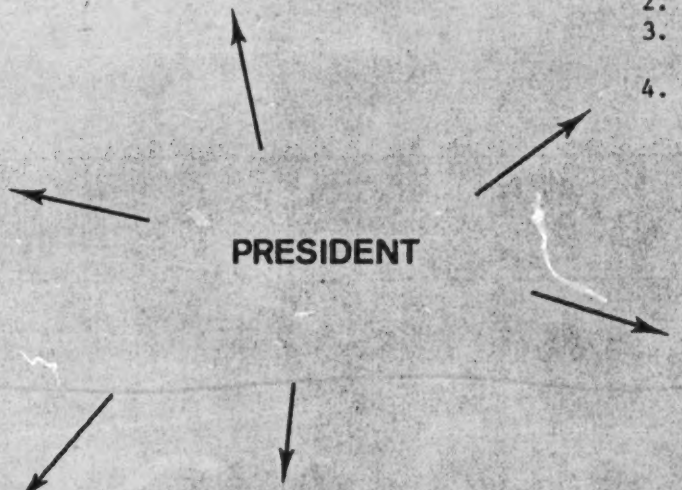
1. D/C/E

f. The President meets with the Secretaries of Commerce and Labor and officials of the Federal Energy Administration concerning charges -1- from leaders of minority groups who claim that the Government is dragging its feet on providing energy related job

training to the unemployed. He orders them to meet with representatives of industry and labor to see what can be done and then report back to him in 60 days.

1. E 2. E

PERSUASIVE POWERS OF THE PRESIDENCY



1. Speeches to the Nation and trips to meet people
2. Family goes out on trips to gather support
3. Town Meetings
4. Top officials meet with local groups

INTEREST GROUPS

1. Confer with leaders and express interest in their proposals, asking them for help
2. Compromise with opponents
3. Support friends, and/or nominate them for position in Executive Branch

THE PRESS

1. Hold or not hold press conferences
2. Discussion of his legislation
3. Explanation of what is wrong with the opposition's program
4. Send out top officials to meet with the press

CONGRESS

1. State of the Union address and other messages
2. Consultation with Congressional leaders
3. Compromise with strong opposition
4. Help re-elect friendly legislators, work against those who oppose his program.

FOREIGN GOVERNMENTS

1. Agreements on arms sales, food and technical assistance
2. Lowering or raising import tariffs
3. Threat of military action

BUREAUCRACY

1. Give orders
2. Increase budget of those who enthusiastically support his program
3. Transfer people from power positions who offend him
4. Support administrators against attacks from outsiders if they help him
5. Broaden authority of bureaucrats who support him

QUESTIONS THAT ACCOMPANY PART 2

1. Reread each of the presidential actions described in the first section of this lesson. For each, indicate the purpose for the persuasion the President found necessary to use.

PRESIDENTIAL ACTIONS	PERSUASIVE POWERS
Situation A	*1. Communications of U.S. concern over the higher prices.* *2. Trading the limits on prices for the right for the country to buy arms.* *3. Convincing the people that the foreign policy is correct.* *4. Convincing legislative leaders to gain their support.*
Situation B	*1. None used specifically, but is going to try to convince Congress.* *2. Persuasion by personal appeal and loyalty to the party.* *3. Ability to offer money from party and personal appearances to get support.* *4. Offer support in exchange.*
Situation C	*1. Constitutional authority to veto.* *2. Talking to people to gain support.* *3. Talking to special interest groups.*

2. Below are a series of situations, for each decide how it might affect the President's power to enact an energy program.

What if...

a. The President is of one political party and the Congress is controlled by the other. *(Stalemate may develop as each group tried to make political points.)*

b. The President's popularity is on the rise with 55% of the American people thinking he is doing a good job. *(Increases his persuasive powers with Congress and the press, along with other groups.)*

c. He tells Congress what energy legislation it will pass. *(Congress dislikes being told what to do and might reject the legislation.)*

d. He regularly seeks the advice of environmentalists, but refuses to meet with representatives of industry. *(Industry lobbying pressures will grow and legislation will then be in trouble with Congress.)*

e. He has a bad t.v. image and seems to fumble questions at press conferences. *(This could reduce his popularity and persuasive ability with almost all groups.)*

f. Important civil servants in the bureaucracy fear the President's energy program may cost them their jobs. *(Bureaucracy will lobby behind the President's back and perhaps hurt the chances of passage.)*

g. The President angers the Chairman of a powerful Senate Committee handling the energy legislation. *(Legislation will be bottlenecked in Congress without a powerful leader in the Senate.)*

h. A foreign government increases the price of petroleum after agreeing not to. *(President may be unable to influence all forces, and would, therefore, have to change his own plans.)*

Do you feel that persuasive politics by the President is necessary? Explain by listing many reasons why the President may have to use persuasion. List some negative aspects of persuasion.

Students might mention all or some of the following:

Good Aspects

1. *Actions that are needed are more easily accomplished.*
2. *Prevents any one group from being too powerful, thus setting up compromises.*
3. *Prevents extreme movements from developing since all groups are able to get something.*
4. *Prevents people from being alienated and thus becoming angry, and frustrated.*

Poor Aspects

1. *Program worthy of enactment may not be able to receive enough diverse support to become a law.*
2. *Policy makers must also be able to persuade. Thus, those only good at making policy are failures at this system.*
3. *Those who merely look good, but have no substance, can succeed.*

4 Advantages and Disadvantages of Coal

Overview

The title of this lesson captures the essence of the lesson materials. In this lesson, students will learn about the problems as well as promise of our most abundant energy source. Primarily an inductive lesson, it helps students draw conclusions and base them on supportive evidence.

Objectives

Students should be able to:

1. Evaluate the advantages and disadvantages of increasing coal production.
2. Make a policy recommendation, either to increase or not increase coal production.
3. Find supportive evidence to back up one advantage or disadvantage of increasing the nation's coal production. (Optional)

Materials

Class set of the student reading

Time Allotment

One class period
Three class periods if optional research activity is taken

Teaching Strategies

Open the lesson by leading a recall session on what has previously been mentioned about coal. Ask the students if they would recommend people and industries use more coal and stop using oil. Ask "How did you decide?" Point out that they may wish to change their minds if they see new evidence. Distribute the student readings -- Handout 1. Have students present their recommendation for or against the use of coal in a short paragraph. Present the outline.

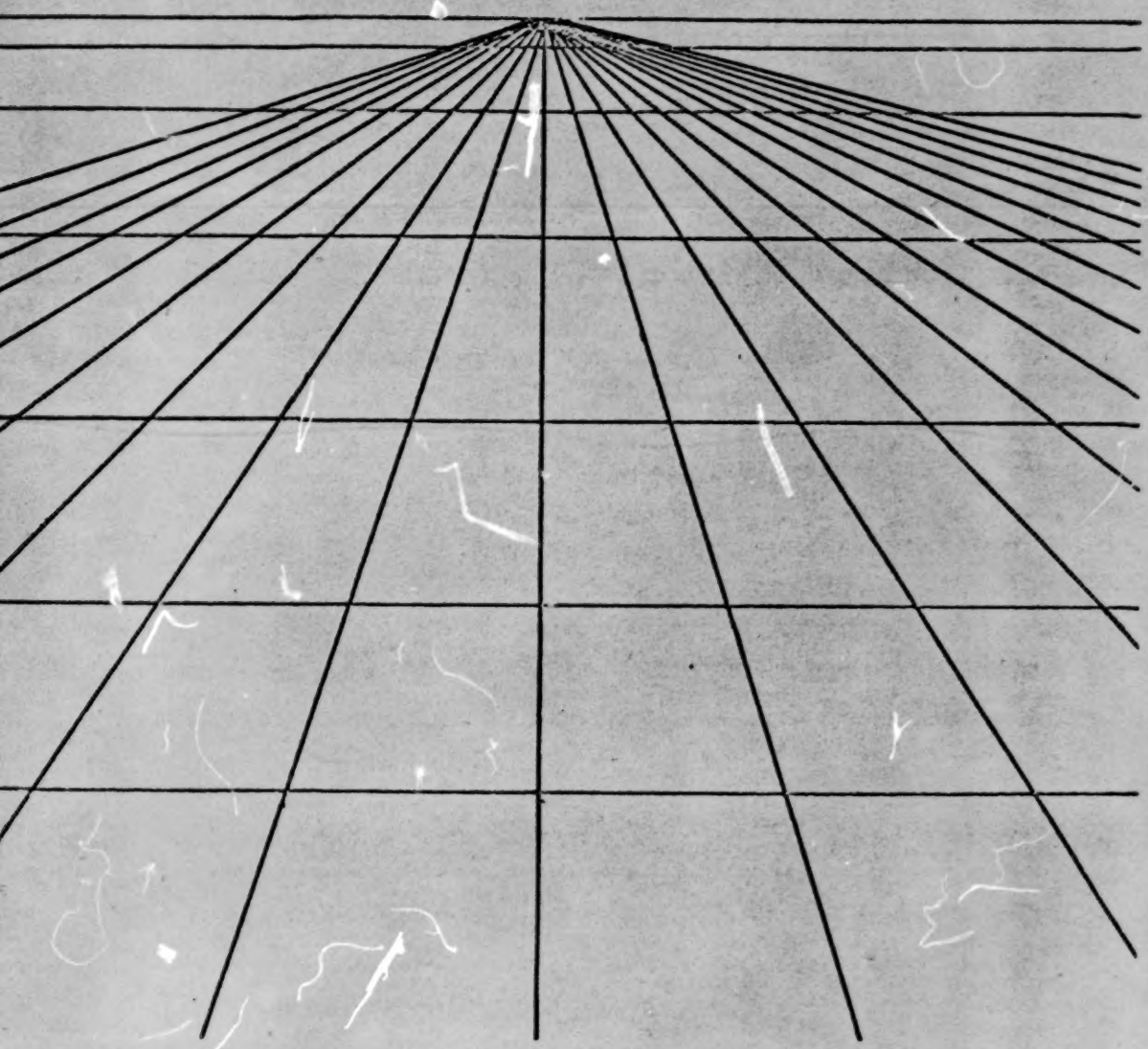
Developing the Lesson

Next, present the outline of President Carter's decision on coal use. Suggest to your students that they compare his decision with their recommendations. This part of the lesson can be conducted in an informal class discussion.

Plan 2

A useful parallel activity to use with classes that choose to study the coal issue in more depth would be to assign the summary of the advantages and disadvantages of coal as detailed above, but then assign students to investigate additional arguments for the use or nonuse of coal that have not been listed on the chart. After one or two class periods in the library, the students could present their findings to the whole class. Encourage note-taking.

TOWARD THE FUTURE



5 Toward the Future: The Advantages of Having a National Energy Plan

Overview

Previous lessons have increased students' awareness of the scope of the energy crisis and introduced them to the bleakness of a world without energy. This lesson gives students an opportunity to see how forecasting and planning interact and how the development of an energy plan becomes necessary if forecasted events are to be averted. The lesson focuses on the interaction of freedom, science, and government -- each of which must be considered in the formation of an energy plan that will also support our domestic way of life.

Objectives

Students should be able to:

1. Differentiate between the terms: forecasting and planning; and among near-term, mid-term, and long-term futures.
2. Develop for their own futures a forecast of events and a plan for reaching the forecasted future.
3. Evaluate student plans using a set of criteria.
4. Explain in their own words how the present energy plan stimulated by the President of the United States has developed provisions for near-term, mid-term, and long-term contingencies. Explain how these term plans interact.

If The Nightmare Life Without Fuel was used previously, ask: "Was the author's view of the future a forecast or a plan? Something else or a little of both?" (Students may point out that Asimov was not forecasting what he thought the future would be like, only what it could be like, if everything went wrong.)

Direct the students' attention to the drawing on the cover of their student materials for this lesson. You may wish to use this drawing in transparency form on the overhead projector, to focus the class' attention as you proceed with the suggested line of questions below:

"How is this drawing related to forecasting?" Students may mention that the future can be shown as the point where the lines converge, but if the point escapes them, ask: "If we consider the foreground of the drawing as the present, and the points where the lines meet (converge) as the future, why are the sizes of the blocks different? Why do they get smaller as we look toward the future?" (Point out that forecasters often divide the future into three time periods.) Ask: "Where would you point to if you were talking about the far-term? Which could be called the mid-term and which the near-term?" The analogy should help students to see the long-term future is hardest to view, that it would be closest to the points of convergence. The near-term is closest to them. Mid-term is in-between.

Materials

Dittoed class sets of Student Handouts 1, 2 (optional), and copies of the National Energy Research Development and Demonstration Plan. These can be obtained from the Government Printing Office, North Capitol Street between G&H Streets, N.W., Washington, D.C., or by writing to the new Department of Energy, Washington, D.C. Also copies can be obtained from the Energy Policy and Planning Office, Washington, D.C.

Transparency copy of the Energy Future included in this packet in a line drawing on page 72.

Time Allotment

Two class periods

Teaching Strategies

Before the student handouts are distributed, you should introduce the class to the important terms. Have your students develop working definitions.

forecasting
planning
near-term
mid-term
long-term

A good approach is to use the line of questioning that follows: "How many of you look at your horoscope in the daily paper? Every day? Now and then? Why do some people go to fortune tellers? Do you know of a job where predicting the future is done a little more scientifically than is done by palm readers, for example?" (Students should mention weather forecasters, political pollsters, futureologists,

etc.) "What is the purpose of each of these? Do you see any difference between forecasting and planning ahead?"

After discussing the difference among the near-, mid-, and long-term futures, the students may want a precise definition of these terms. Although the definitions will vary according to who is doing the forecasting, energy planners at ERDA (the Energy Research and Development Administration) define the terms as: near-term - present to 1985; mid-term - 1985-2000; long-term - 2000 - ?. To help students use these concepts, as well as giving them a chance to plan their own future, assign the Handout 2 and complete the chart for homework or begin the planning chart in class. Directions are on the worksheet. Stress that students should be realistic and specific in their forecasts.

After students have finished the chart, volunteers may like to tell the whole class what they have forecasted. Allow enough class time to listen to several examples of forecasts. The class should then evaluate these, raising the following criteria.

1. Is the forecast realistic? Does the forecast provide the three time periods?

2. Are the plans adequate? Does the student set a high goal, but then not have the plans to reach the goal?

3. Are the plans and forecasts of one time period built upon the plans for the preceding ones? In other words, does the planning process proceed in stages, or does it jump from a low goal to a high one without any steps in-between?

Now have the class survey the information on Handout 1. This presents a summary of the "National Plan for Energy Research, Development, and Demonstration" of the Energy Research and Development Administration. This plan is a look toward the future, showing what steps the government feels should be taken to avoid the "nightmare" future that was described earlier. This could be shown on an overhead projector, or duplicated and given to each student. Have students answer the questions about the plans for the future. Use their answers as an evaluative device. The questions and answers follow. Note: Use at end of lesson. Student questions can be found on page 71 of student guide.

QUESTIONS

Identify the types of plans that are presented. How do they differ in the near-, mid-, and long-term futures? Follow through this relevance and validity by asking:

1. What are the government's energy plans for the near-term? *(Conservation, increased efficiency, expansion of already existing technology.)*

2. How does the mid-term plan differ from the near-term? *(Mid-term concentrates on the development of new, but not radically new technology. The mid-term uses fuels that are underused today, but not totally new fuels.)*

3. What is planned for the long-term? How do these plans differ from the near-term? *(Long range plans include the development of technologies that will use almost inexhaustible fuels, fusion, solar, and breeder reactors. These are unavailable today. Thus, the long-term is a major break with the near-term, and a mild evolution from the mid-term.)*

4. Why doesn't the government put all its effort into the development of a fuel source like fusion, which would produce all the power we could use for thousands of years? *(1. The technological development of fusion is many years ahead, and 2. it may not even work. Thus if all efforts were concentrated toward the development of fusion, without also contingent development of alternatives, it would be disastrous.)*

5. When we looked at your plans for the future, we discussed the idea that the long-term plans must build upon the near- and mid-term ones. Does the federal energy plan do this? *(Yes. In the near-term, conservation eliminates the crisis part of the problem by reducing the demand for extra energy until the mid-term sources can be developed. The mid-term sources are possible, given a few years of development, and will be ready to pick up the demand. Then in the long-term, the radically new technologies will be needed, but there will be time for their development.)*

References: Energy Research and Development Administration, "A National Plan for Energy Research, Development, and Demonstration" (ERDA 77-1). Single copies are available free from ERDA's Technical Information Center, P.O. Box 62, Oak Ridge, Tennessee 37830. Copies may also be purchased from the Government Printing Office for $2.00.

6 An Energy Policy Is Born

Overview The lesson traces the evolution of President Carter's energy policy during the first months of 1977. Through a directed reading assignment, students will see how the system of Presidential advisors operates, and how a specific decision goes through a series of steps toward its conclusion. Questions ask the student to go beyond the reading to analyze the power of Presidential advisors, identify the areas of conflict within a bureaucracy, and see how a policy, once decided upon, is presented to the public and to Congress.

Objectives Students should be able to:

1. Identify the steps in Presidential decision-making.
2. Analyze the importance of Presidential advisors in the process of decision-making.
3. Identify the areas of conflict which can arise during a decision-making process.
4. Analyze the role played by the public in Presidential decision-making.
5. Predict the methods that may be used to convince the public and Congress of the Presidential action.

Target Audience U.S. history, government, or civics classes

Materials Class set of the reading: "The Birth or a Policy"

Time Allotment Two-three class periods

Teaching Strategies Since the lesson deals with how the President makes a decision about policy, a good approach might be to hold a brief discussion on how decisions are made. If this has not been dealt with in class before, a decision-making model is a logical starting point. There are many ways of defining the steps of decision-making, and the teacher may wish to use another listing, but one such appears below:

Steps in Decision-Making

1. Identify and clarify the problem to be solved.
2. Identify the goals of the decision-maker.
3. Propose alternatives, two or more ways of solving the problem.
4. Examine the probable outcomes for each of the alternatives, both positive and negative.
5. Evaluate the alternatives, using the goals identified above.
6. Select an alternative to be implemented.

You may wish to give this list to your students. Another approach has the class suggest the process steps by examining a decision they might make. For example: What to do about a test that must be taken the next day. The goals would be either to pass or achieve a certain grade on the test, and the alternative solutions would be to study for a specific amount of time or not to study at all. The consequences of the alternatives can be foreseen. With the goal in mind, a specific alternative could be selected.

Once the general concept of decision-making has been dealt with, the students are prepared for the case study showing how the President makes a decision. Instead of examining in detail the various alternatives, etc., the reading concentrates on the process of Presidential decision-making. You might want to ask the class, "How do you think the President's way of making decisions differs from yours? Who helps you make a decision? Why do you think a President might need advisors?"

The reading can be approached in several ways. One would be to break the assignment into three parts, having the students stop and answer the questions after each portion. This allows for a discussion on each of the questions, clearing up any misconceptions before the student continues. Another approach would have the student read the entire assignment and answer the questions, with a general discussion of the questions carrying over into the next class meeting.

Extending the Learning

Suggested activity:

Ask students to make a brief list of groups in their school, or their city or state government that are charged with making decisions. (A school board would be one example.) Ask students to indicate on their list the number of persons in each group and to indicate briefly how they are chosen. Ask: "What if only one person were responsible for decisions made by these groups? What would be the advantages? What would happen if the number of persons in these groups were doubled? What if the number was cut in half?"

References

Executive Office of the President/Energy Policy and Planning, *The National Energy Plan: Summary of Public Participation*, G.P.O., Washington, D.C., 1977.

Fraenkel, Jack R., et. al., *Decision-Making in American Government*, Allyn and Bacon, Inc., Boston, 1977.

Kurfman, Dana G., editor, *Developing Decision-Making Skills*, National Council for the Social Studies, (47th Yearbook), Washington, D.C., 1977.

"What Price Energy," *Newsweek*, Vol. 89, No. 18, May 2, 1977, pages 12-16.

"The Energy War," *Time*, Vol. 109, No. 18, May 2, 1977, pages 10-14.

"Superbrain's Superproblem," *Time*, Vol. 109, No. 14, April 4, 1977, pages 56-67.

Photos from *Newsweek*, May 2, 1977, pages 1 and 6, and *Time*, April 4, 1977, page 4.

Student Questions

1. While it is obvious that a President cannot always make major policy decisions by himself, could it also be true that a President's staff of advisors might get too large? What would be the result? *(When too many people are involved, problems such as overspecialization, communication gaps, over-concern with short-term solutions arise. Too many advisors, like too many cooks, tend to be less efficient.)*

2. Members of the Cabinet, such as the Secretary of State, and those in the Executive Office of the President, such as James Schlesinger, advise the President on important matters. Members of the Cabinet, however, must be formally confirmed by the Senate, while Presidential advisors on the White House staff do not go through this process. Why is there a difference? Do you think that the practice should be changed? Why or why not? Where does the President get the authority to appoint members of the Cabinet? Why can you consider the Senate's power to "advise and consent" to Presidential appointments a form of the checks and balances? *(The President's advisors are not required to be confirmed by the Senate because it is not formally required in the Constitution. Congress has generally permitted the President to pick his closest advisors personally. Some say that this gives enormous power to a few people who then are not responsible to the American people through Congress. As the White House Staff becomes more powerful, as it has over the last decades, and especially after the Watergate issue, this criticism has grown. The other side of the issue is simply the idea that the President should be able to choose the people with whom he works, without outside interference.)*

3. Put yourself in the position of James Schlesinger. The following people have applied to be on the staff of the Energy Policy and Planning Office. Who would you hire? Rank the person you would hire first, by putting a 1 next to the background description. Put the number 2 on the line for the individual you would hire next, and so on. Then be prepared to explain your first and last choices in class.

_____A. A college professor presently developing a new method of collecting and storing solar energy.

_____B. A former government employee recently transferred from his job for criticizing the needless complications and waste in the agency for which he worked.

_____C. A former speech-writer for President Ford, who is experienced in writing summaries of reports for the President.

_____D. An employee of a "think tank," a research organization known for its progressive ideas, who can supply a steady stream of bold, innovative suggestions.

_____E. A political party figure who always agrees with his boss's ideas.

_____F. A businesswoman who is an expert at organizing people to get a specific task done.

(Student's choices will vary according to their own values. Most students may rank individuals D, F, and B highly since they seem to be creative, or well-suited for the task, while individuals E, A, and C may rank lower since they seem to be less creative or less involved in decision-making jobs. Evaluation of the student's answers on this question should stress the rationale behind the choices made, not just the choices.)

4. Put the following events in chronological order:

A. Staff suggests specific solutions.
B. Candidate Carter decides that energy is a problem that needs a solution.
C. President Carter picks Schlesinger as energy advisor.
D. Key areas of energy problems are identified.

(Chronological order: B, C, D, and A.)

5. Why do you think the White House staff members needed to hear the ideas of the people? Did the staff expect people to have the same ideas? Can a President govern without the support of the people?

(The public input into the decision-making process was mainly to show the American people that their views were being solicited and listened to. It is impossible to judge whether or not these views had any real impact on the actual policy chosen, but since the data was collected so late in the process, it is doubtful that the

impact was great. The staff did not anticipate people would all have the same ideas. On the other hand, the people were included in the process, something that is not always done on the White House level, generally with regret. The President derives his power from the support of the citizens of the United States.)

6. When you have to make a decision, do you often have to choose between more than one action? Give an example. Does the President of the United States have more to consider when he makes a decision? Give an example.

(Answers will vary. There are always at least two options available: to do nothing and to do something. Often students are not aware that doing nothing is still an alternative. The President's decisions are more complicated than those of other individuals because they involve many more people and institutions. They are not necessarily more difficult or painful than personal decisions by anyone. Examples will vary.)

7. Why might officials in the Environmental Protection Agency (EPA) want to be consulted when a national energy plan is drawn up? What other government departments or federal agencies would want their views known before an energy policy is presented to Congress?

(The EPA official would want to see how the proposed plan would affect the environment, and to make sure that the goal of a clean environment was not pushed aside by the policy on energy. Other agencies that might wish to influence the policy would include the Department of Interior, Commerce, Treasury, State and Defense (for the effect on foreign affairs), Transportation (does the plan include increased mass transit?), the Federal Power Commission, and the Federal Energy Administration.)

8. Explain why the Carter energy staff chose to work in secrecy.

(Answers will vary. Time was short. Energy staff felt secrecy could sidestep early conflicts.)

9. Put the following events in chronological order:

A. President Carter makes his decisions about specific details of the energy plan.

B. The people are asked to send in their opinions and their solutions to the energy question.

C. Congressional leaders are consulted.

D. Cabinet members and top advisors meet and change some parts of the plan.

E. White House "mini-conferences" held.

(Chronological order: B, E, A, D, and C.)

10. What did the President mean by the statement that people should respond to the energy crisis with the "moral equivalent of war?" What other modern Presidents have declared war on domestic problems?

(This idea of President Carter's is not new; President Johnson had his War On Poverty, for example. If the public accepts the President's call, they could mobilize their efforts as in a war.)

11. What additional steps would you take, if you were an administration energy staffer, to help "sell" the Carter energy plan?

(Students may suggest: distribute fact sheets, copies of the President's speeches; have administration officials present the plan on TV; use political parties to distribute information and organize support; talk to individual Congressmen, and many more.)

12. Was it really necessary for the President to try to get public support for his energy plan? What if he had chosen not to do this?

(Yes. The President cannot govern effectively without the support of the people.)

Student Guide

The Nightmare of Life Without Fuel

1 *Americans are so used to limitless energy supplies that they can hardly imagine what life might be like when the fuel really starts to run out. So* TIME *asked Science Writer Isaac Asimov for his version of an energy-poor society that might exist at the end of the 20th century. The following portrait, Asimov noted, "need not prove to be accurate. It is a picture of the worst, of waste continuing, of oil running out, of nothing in its place, of world population continuing to rise. But then, that could happen, couldn't it?"*

2 So it's 1997, and it's raining, and you'll have to walk to work again. The subways are crowded and any given train breaks down one morning out of five. The buses are gone, and on a day like today the bicycles slosh and slide. Besides, you have only a mile and a half to go, and you have boots, raincoat and rain hat. And it's a very cold rain, so why not?

3 Lucky you have a job in demolition too. It's steady work. Slow and dirty, but steady. The fading structures of a decaying city are the great mineral mines and hardware shops of the nation. Break them down and re-use the parts. Coal is too difficult to dig up and transport to give us energy in the amounts we need, nuclear fission is judged to be too dangerous, the technical breakthrough toward nuclear fusion that we hoped for never took place, and solar batteries are too expensive to maintain on the earth's surface in sufficient quantity.

4 Anyone older than ten can remember automobiles. They dwindled. At first the price of gasoline climbed - way up. Finally only the well-to-do drove, and that was too clear an indication that they were filthy rich, so any automobile that dared show itself on a city street was overturned and burned. Rationing was introduced to "equalize sacrifice," but every three months the ration was reduced. The cars just vanished and became part of the metal resource.

5 There are many advantages, if you want to look for them. Our 1997 newspapers continually point them out. The air is cleaner and there seem to be fewer colds. Against most predictions, the crime rate has dropped. With the police car too expensive (and too easy a target), policemen are back on their beats. More important, the streets are full. Legs are king in the cities of 1997, and people walk everywhere far into the night. Even the parks are full, and there is mutual protection in crowds.

6 If the weather isn't too cold, people sit out front. If it is hot, the open air is the only air conditioning they get. And at least the street lights still burn. Indoors, electricity is scarce, and few people can afford to keep lights burning after supper.

7 As for the winter - well, it is inconvenient to be cold, with most of what furnace fuel is allowed hoarded for the dawn; but sweaters are popular indoor wear and showers are not an everyday luxury. Lukewarm sponge baths will do, and if the air is not always very fragrant in the human vicinity, the automobile fumes are gone.

8 There is some consolation in the city that it is worse in the suburbs. The suburbs were born with the auto, lived with the auto, and are dying with the auto. One way out for the suburbanites is to form associations that assign turns to the procurement and distribution of food. Pushcarts creak from house to house along the posh suburban roads, and every bad snowstorm is a disaster. It isn't easy to hoard enough food to last till the roads are open. There is not much in the way of refrigeration except for the snowbanks, and then the dogs must be fought off.

9 What energy is left cannot be directed into personal comfort. The nation must survive until new energy sources are found, so it is the railroads and subways that are receiving major attention. The railroads must move the coal that is the immediate hope, and the subways can best move the people.

10 And then, of course, energy must be conserved for agriculture. The great car factories make trucks and farm machinery almost exclusively. We can huddle together when there is a lack of warmth, fan ourselves should there be no cooling breezes, sleep or make love at such times as there is a lack of light - but nothing will for long ameliorate a lack

of food. The American population isn't going up much any more, but the food supply must be kept high even though the prices and difficulty of distribution force each American to eat less. Food is needed for export so that we can pay for some trickle of oil and for other resources.

11 The rest of the world, of course, is not as lucky as we are. Some cynics say that it is the knowledge of this that helps keep America from despair. They're starving out there, because earth's population has continued to go up. The population on earth is 5.5 billion, and outside the United States and Europe, not more than one in five has enough to eat at any given time.

12 All the statistics point to a rapidly declining rate of population increase, but that is coming about chiefly through a high infant mortality; the first and most helpless victims of starvation are babies, after their mothers have gone dry. A strong current of American opinion, as reflected in the newspapers (some of which still produce their daily eight pages of bad news), holds that it is just as well. It serves to reduce the population, doesn't it?

13 Others point out that it's more than just starvation. There are those who manage to survive on barely enough to keep the body working, and that proves to be not enough for the brain. It is estimated that there are now nearly 2 billion people in the world who are alive but who are permanently brain damaged by undernutrition, and the number is growing year by year. It has already occurred to some that it would be "realistic" to wipe them out quietly and rid the earth of an encumbering menace. The American newspapers of 1997 do not report that this is actually being done anywhere, but some travelers bring back horror tales.

14 At least the armies are gone - no one can afford to keep those expensive, energy-gobbling monstrosities. Some soldiers in uniform and with rifles are present in almost every still functioning nation, but only the United States and the Soviet Union can maintain a few tanks, planes and ships - which they dare not move for fear of biting into limited fuel reserves.

15 Energy continues to decline, and machines must be replaced by human muscle and beasts of burden. People are working longer hours and there is less

leisure; but then, with electric lighting restricted, television for only three hours a night, movies three evenings a week, new books few and printed in small editions, what is there to do with leisure? Work, sleep and eating are the great trinity of 1997, and only the first two are guaranteed.

16 Where will it end? It must end in a return to the days before 1800, to the days before the fossil fuels powered a vast machine industry and technology. It must end in subsistence farming and in a world population reduced by starvation, disease and violence to less than a billion.

17 And what can we do to prevent all this now?
Now? Almost nothing.
If we had started 20 years ago, that might have been another matter. If we had only started 50 years ago, it would have been easy.

"The Nightmare of Life Without Fuel," by Isaac Asimov. Reprinted by permission from TIME, The Weekly Newsmagazine; Copyright Time, Inc., 1977.

The Nightmare Life Without Fuel

People talk about an energy "crisis" all the time, but there are no long lines for gasoline, the cold winter is over, we have enough electricity to run our appliances, and gasoline prices aren't going up that fast anymore. So, where's the crisis? Well, maybe it's like President Carter says, "Our energy crisis is an invisible crisis, which grows steadily worse -- even when it is not in the news." So, how can we see an invisible crisis? Two ways will be given: One is a vision of the future which can only be called a nightmare. By looking at this, we can see what we hope will not come to pass. Then, we will look at several graphs to see if the present problem could actually get that bad.

The article "Nightmare Life Without Fuel," was written by Isaac Asimov, who is both a science fact and science fiction writer. As you read the article, think about the following question: Is this the way the future will really be like, or will it be different? After finishing the reading, answer the following questions.

Paragraphs are numbered to simplify your search for the answers.

1. In the first paragraph, the author says that this view of the future "need not prove to be accurate." What does he say would cause the vision to become real?

2. What is meant in Paragraph 3 when the cities are described as being "the great mineral mines and hardware shops of the nation?"

3. The author describes the end of the automobile in Paragraph 4. It is mentioned that "rationing was introduced to 'equalize sacrifice'," but that the cars just vanished anyway. What do you think was rationed? How do rations "equalize sacrifice?"

4. Throughout the article, the world of 1997 looks like a nightmare. The author, however, sees some advantages in the life of 1997 over that in 1977. Name four advantages that this energy-poor life has to offer.

5. Why is life worse for the suburban dweller in 1997 than for those living in the city (see Paragraph 8)?

6. In Paragraph 10, the author says the U.S. is still purchasing "some trickle" of oil from other nations. How is the U.S. paying for this energy? How does this affect life for the American people?

7. What sources of energy does the author say the U.S. might be using in 1997? Which seems to be relied upon the most? How does this differ from the U.S. in 1977?

8. What does the author mean by the last five lines, "And what can we do to prevent all this now. Now? Almost nothing. If we had started 20 years ago, that might have been another matter. If we had only started 50 years ago, it would have been easy."

Lifetimes of Ultimately Recoverable Resources

UNITED STATES LIFETIMES

Resource	With Constant 1973 Consumption	With Increased Consumption	Assumed Doubling Time in Years
Oil	80 years	35 years	16
Natural Gas	112 years	30 years	8
Coal	693 years	70 years	15

WORLD LIFETIMES

With Increased Consumption	Assumed Doubling Time in Years
35 years	9
45 years	9
3,600 years	*

*World coal consumption has been nearly constant in the past 5 years. Thus, no estimate of increased consumption has been attempted.

Source: Tables 5-6 and 5-7 in Energy-Environment Source Book, by John Fowler. NSTA, Washington, D.C., 1975.

The table above gives a reasonable answer to the question, "When will we run out of _____?" While no one can say with certainty when a resource will be exhausted, it is possible to make calculations based on two numbers: the amount of a resource that is available, and how fast it is being used up. Both of these facts need further explanation.

As you can see, the table uses the complicated phrase, "ultimately recoverable resources." Look at one resource - oil. In the United States, geologists have identified various locations where they know oil exists, or are reasonably certain it exists. They estimate that the United States has about 52 billion barrels of oil in discovered oil fields that remains to be extracted, and that 450 billion barrels remain in oil fields still unknown. This 502 billion barrel total is then a realistic upper limit of the total oil that the U.S. can count on. If, however, new methods are developed by which we can get oil from sources we now think are uneconomical, these estimates may have to be adjusted.

QUESTIONS

1. If a method is discovered that allows oil companies to extract oil from areas where they cannot do so today, how will this affect the lifetime calculations in the table above?

2. Why is it important to use a conservative estimate of a resource's lifetime instead of a more optimistic estimate in making energy policy decisions?

3. If we consume the same amount of our own oil today as we did in 1973, our own oil resources will last _____years. If consumption keeps increasing in the future at the same rate that it did in the past, we will double our consumption of oil in _____years. This means that, assuming that our oil consumption continues to increase, we have only _____years of petroleum left in the United States.

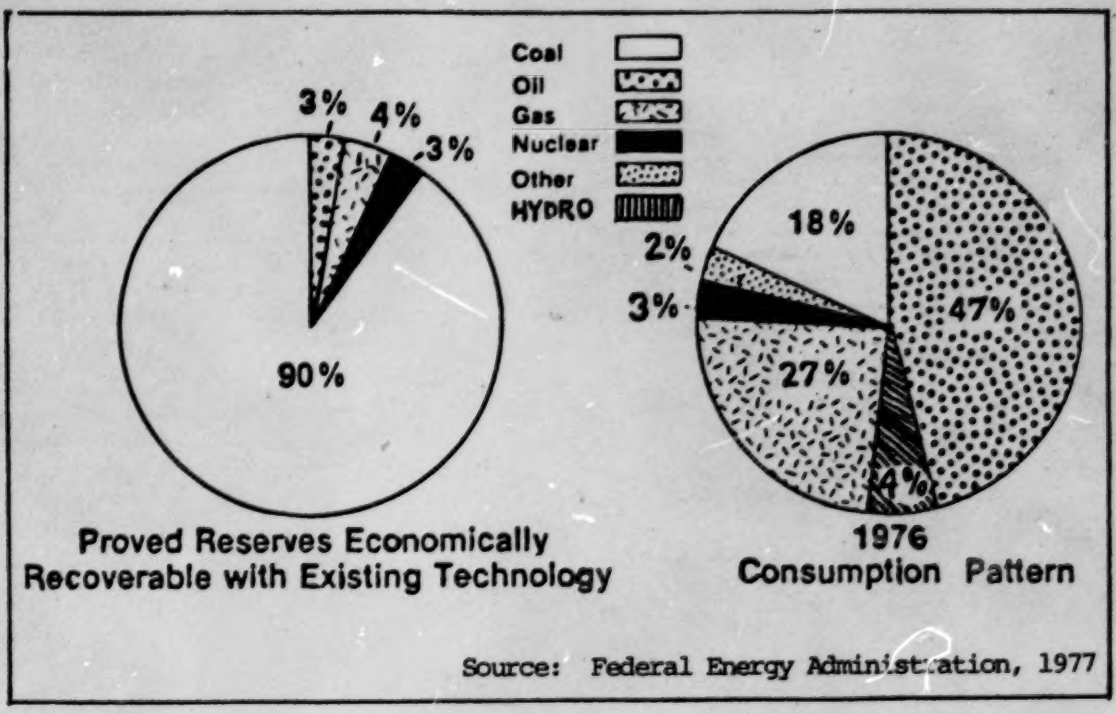
4. The formula for obtaining the doubling time is:

   $Time_{double}$ = 70 years divided by r (the growth rate in percent per year.)

   This means that if oil consumption grows at 4.4% per year, the doubling time is 70/4.4 = 16. What would happen to the doubling time if the rate of consumption decreased to 2%?_____
   Would the lifetime of a resource increase or decrease if the rate at which it is consumed decreases?_____

5. Based on the information last contained in the table, what energy resource will us the most number of years?_____

Energy Outlook



Source: Federal Energy Administration, 1977

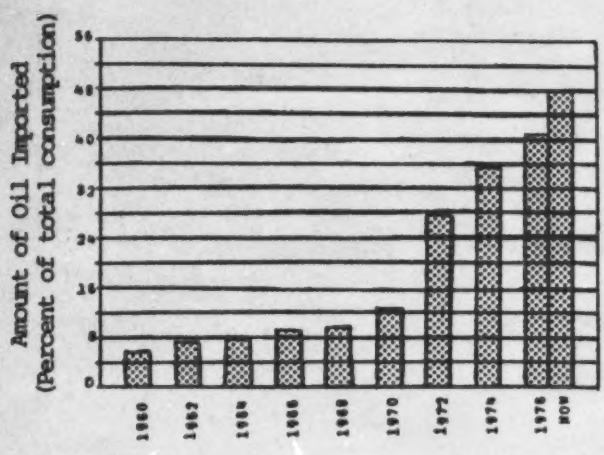
Questions

1. What is the major energy source used to power the nation today? What percentage of our proven reserves is this source?

2. What percentage of our energy do we get from coal today? Coal is what percentage of our reserves?

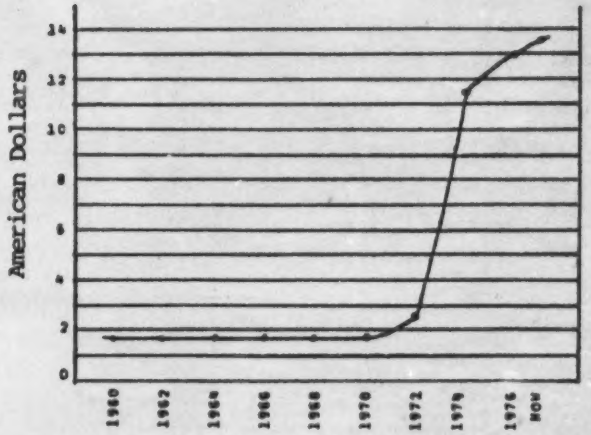
GRAPH # 1

UNITED STATES OIL IMPORTS



GRAPH #2

PERSIAN GULF OIL PRICES



Questions

1. Between which years did the largest increase in the price of oil take place?
2. As the price of oil increased, what happened to the percent of oil that the U.S. imported?
3. In 1964, why might Americans <u>not</u> feel that there was an "energy crisis"?
4. Why might an American national security expert be so concerned by the information contained in these graphs?

For each of the following statements, mark a "T" if it is true based on the information provided in the graphs and tables, Mark an "F" if false and "OT" if you cannot tell based on the information provided. Explain your answers.

_____1. The increased cost of petroleum since 1973 has caused the United States to import less and less petroleum since then.

Reason: _____

_____

_____2. With 693 years of coal, we have no real energy crisis. Let people hundreds of years from now worry about the so-called "energy crisis."

Reason: _____

_____

_____3. The reason we don't use more coal than we do is because the burning of coal produces air pollution.

Reason: _____

_____

_____4. The world reserves of oil will outlast the supplies in the United States by decades.

Reason: _____

_____

_____5. The world has doubled its consumption of oil in less than a decade.

Reason: _____

_____

ESSAY

In a well-written paragraph on your own paper, summarize the energy crisis. Include statistics that support your conclusions and recommendations you feel the President should act upon.

STUDENT ACTIVITY 3

Student Guide

What Are the Powers of a President?

No President can hope to put together anything as complex as a national energy program, sell it to the Congress and to the American people unless he has a firm understanding of his responsibilities, his powers and his limitations. This lesson will help you understand these roles of the Presidency.

What are the responsibilities of the President? Below is a description of the various roles the President of the United States performs. Read each carefully and then answer the questions at the end of the reading.

1. Chief of State — The President is the official head of the nation. As such, he awards medals, unveils statues, proclaims holidays and "special weeks" throughout the year. He greets dignitaries and publicizes worthy causes. As Chief of State, the President embodies the ideals of the nation.

2. Chief Diplomat — The President largely develops and executes the foreign policy of the United States. He negotiates all treaties and executive agreements with other nations through his subordinates, and he alone may officially speak for this government to other governments. He receives foreign ambassadors and has the power to recognize or not to recognize other governments. Whether we have detente or cold war with the Soviet Union, whether we will recognize the People's Government of China or sell arms and goods to other nations is largely up to the President of the United States.

3. Commander in Chief — The President is in charge of the armed forces as well. Military personnel are responsible to him; he has the authority to remove any member of the military from command. He controls the weapon systems of this nation, especially the nuclear weapons. Only the President may give the command to

use these weapons, regardless of where in the world they are located. The Congress must declare war, but it has never been done without the President first asking, so whether we go to war or negotiate is again largely in the hands of the President. Finally, he also can use military forces to quell domestic riots, to enforce Federal laws and orders of Federal Courts.

4. Chief Executive

The President is in charge of the vast Executive Branch of the Federal Government. All the laws passed by Congress must be carried out by people who work in the various agencies, bureaus, and offices which make up the Executive Branch. Ultimately, the President is responsible for their actions. Because of this, the President has the authority to hire (with the consent of the Senate) and fire (with the consent of no one) the heads and their deputies of most of these offices. The vast majority of government employees, however, are civil servants and cannot be hired or fired by the President. Their jobs are obtained by merit, and they cannot be fired, after a probationary period, except when there is proof of incompetence.

5. Chief Legislator

The President recommends legislation to the Congress. He originates most of the public legislation which Congress considers. He addresses the Congress on the State of the Union each January and can, of course, veto any legislation he feels is unwise, or sign any that he accepts. Congress normally awaits the legislative initiative of the President, and the work of the Congress each year is mainly to determine what parts of the President's program it supports and what parts it will reject or rewrite.

6. Head of His Party

The President is the head of his political party. He normally appoints people from his own party who helped him get elected to various jobs in the Executive Branch, which is not a part of the Civil Service system. He campaigns for people in his own party who support him and usually opposes candidates of the other party. The President advances the philosophy of his own administration and of his party as the right policy for the nation, and often points to the other party as insensitive to the needs and the desires of the American people.

Some of these roles grow out of the President's Constitutional authority, whereas others are a result of custom and tradition which have developed over the last 180 years.

QUESTIONS

1. For each of the Presidential roles, described above, mark a "C" for those parts which stem from the Constitution and a "T" for those parts which are grounded in custom and tradition. If marking a "C", also indicate the Article, Section, and the Paragraph of the Constitution which supports your answer. Each role may involve the use of several constitutional authorities and/or traditions. Be sure to list all of them for each role.

Presidential Role	C or T	If "C", the Constitutional Authority is...
Chief of State	1.	
Chief Diplomat	1.	
	2.	
	3.	
Commander-in-Chief	1.	
	2.	
	3.	
	4.	
Chief Executive	1.	
	2.	
	3.	
Chief Legislator	1.	
	2.	
	3.	
	4.	
Head of His Party	1.	
	2.	
	3.	
	4.	

2. For each of the Presidential roles, list the Constitutional checks and balances, if any, which restrain the President. Do the Presidential powers which stem from custom have any checks on them?

Presidential Role	C or T	Check on Presidential Power
Chief of State	1.	
Chief Diplomat	1.	
	2.	
	3.	
Commander-in-Chief	1.	
	2.	
	3.	
	4.	
Chief Executive	1.	
	2.	
	3.	
	4.	
Chief Legislator	1.	
	2.	
	3.	
	4.	
Head of His Party	1.	
	2.	
	3.	
	4.	

3. Below are a series of Presidential actions relating to to the energy crisis. For each indicate the Presidential role or roles he is performing, by using the following abbreviations:

S - Chief of State
D - Chief Diplomat
C - Commander-in-Chief
E - Chief Executive
L - Chief Legislator
P - Head of Party

a. The President and the Secretary of State meet with with the Saudi Arabian Ambassador concerning future OPEC prices -1-, and the Ambassador's interest in buying more arms from the United States -2-. The President invites the press -3- in for coverage of the meeting and has breakfast with Congressional leaders -4- the following morning to brief them on the meeting.

1. _____ 2. _____ 3. _____ 4. _____

b. The President has sent to Congress legislation -1- regarding surface mining in the Rocky Mountain states Several members of his own party from that area haven't yet decided to support it -2-. He telephones them and asks for their support and expresses interest in their up-coming election -3- and pet legislation which has yet to make it out of the subcommittee -4-.

1. _____ 2. _____ 3. _____ 4. _____

c. The President vetoes Congressional legislation -1- on air pollution standards inviting the press in to explain why he thinks the legislation favors only one group at the expense of all the other people. -2- His press secretary announces later the the President will speak at the national convention of environmentalists in Denver. -3-

1. _____ 2. _____ 3. _____

d. The President schedules a 15-minute photo session and speech with children who won a national poster contest -1- on saving energy around the house.

1. _____

e. The President meets with his advisor on energy, the Director of the Central Intelligence Agency and the Secretaries of State and Defense about recent newspaper reports concerning a future Middle East oil embargo. -1-

1. _____

f. The President meets with the Secretaries of Commerce and Labor and officials of the Federal Energy Administration concerning charges -1- from leaders of minority groups who claim that the Government is dragging its feet on providing energy related job

training to the unemployed. He orders them to meet with representatives of industry and labor to see what can be done and then report back to him in 60 days.

-2-

1. _____ 2. _____

PERSUASIVE POWERS OF THE PRESIDENCY

1. Speeches to the Nation and trips to meet people
2. Family goes out on trips to gather support
3. Town Meetings
4. Top officials meet with local groups

THE PRESS

1. Hold or not hold press conferences
2. Discussion of his legislation
3. Explanation of what is wrong with the opposition's program
4. Send out top officials to meet with the press

INTEREST GROUPS

1. Confer with leaders and express interest in their proposals, asking them for help
2. Compromise with opponents
3. Support friends, and/or nominate them for position in Executive Branch

PRESIDENT

CONGRESS

1. State of the Union address and other messages
2. Consultation with Congressional leaders
3. Compromise with strong opposition
4. Help re-elect friendly legislators, work against those who oppose his program.

FOREIGN GOVERNMENTS

1. Agreements on arms sales, food and technical assistance
2. Lowering or raising import tariffs
3. Threat of military action

BUREAUCRACY

1. Give orders
2. Increase budget of those who enthusiastically support his program
3. Transfer people from power positions who offend him
4. Support administrators against attacks from outsiders if they help him
5. Broaden authority of bureaucrats who support him

Handout
Part 2

QUESTIONS

1. Reread each of the Presidential actions described in the first section of this lesson. For each, indicate the type of persuasion the President was using.

PRESIDENTIAL ACTIONS	PERSUASIVE POWERS
Situation A	1.
	2.
	3.
	4.
Situation B	1.
	2.
	3.
	4.
Situation C	1.
	2.
	3.

2. Below are a series of situations. For each, decide how it might affect the President's power to enact an energy program.

What if...

a. The President is of one political party and the Congress is controlled by the other.

b. The President's popularity is on the rise with 55% of the American people thinking he is doing a good job.

c. He tells Congress what energy legislation it will pass.

d. He regularly seeks the advice of environmentalists but refuses to meet with representatives of industry.

e. He has a bad TV image and seems to fumble questions at press conferences.

f. Important civil servants in the bureaucracy fear the President's energy program may cost them their jobs.

g. The President angers the Chairman of a powerful Senate Committee handling the energy legislation.

h. A foreign government increases the price of petroleum after agreeing not to.

3. Do you feel that persuasive politics by the President is necessary? Explain by listing many reasons why the President may have to use persuasion. List some negative aspects of persuasion.

Handout 1

INCREASED PRODUCTION OF COAL - ADVANTAGES

ABUNDANT SOURCE OF ENERGY - Coal that is recoverable under present economic and technological conditions will last at least 360 years at present rates of consumption. Even if coal production doubles in the next decade, as President Carter wishes, new methods of recovery should enable coal to be a major source of energy, way into the next century.

A GOOD SUBSTITUTE FOR OIL AND NATURAL GAS - For many industrial users, coal can be substituted for other fuels without great expense. Electric power plants using oil, for example, can convert to coal without great difficulty. Other users of oil, such as in transportation, will be unable to substitute unless it is converted into a liquid or gaseous form. Production of these synthetic fuels from coal is now being researched, and will be available after 1985.

COAL IS AVAILABLE IN THE WEST - Although two-thirds of the coal mined in recent years has come from the Appalachian region, future increases in coal production will come in the Northern Great Plains states of Montana, Wyoming, and North Dakota. Most western coal is easily mined by surface mining techniques, rather than by the more costly underground mines of the East. While surface mining requires extensive land reclamation after the mining is finished, the coal companies have indicated their willingness to restore the land.

ENVIRONMENTAL EFFECTS CAN BE MINIMIZED - The effect on the environment from the use of coal can be reduced in two ways. Since coal mined in the West is lower in polluting sulfur, it can be burned without reducing air quality significantly. If, however, coal higher in sulfur content is used, anti-pollution devices called stack gas scrubbers can be installed.

INCREASED COAL USE CAN BRING SOCIAL BENEFITS - While the development of western coal may bring the problems of rapid growth, it also brings increased economic activity. Communities can benefit from greater tax revenues and individuals will find more employment opportunities.

INCREASED PRODUCTION OF COAL - DISADVANTAGES

THE USE OF COAL CAUSES ENVIRONMENTAL DAMAGE - When coal is burned, the sulfur contained in the coal is combined with oxygen to form sulfur dioxide. This can then combine with water vapor in the atmosphere to form sulfuric acid. The effects upon humans can be as little as making your eyes water, or as much as damaging the cells lining your lungs.

COST OF CONVERSION TO COAL IS HIGH - While coal can be substituted for oil and natural gas, the cost will be extremely high. The cost to convert only U.S. utility plants had been estimated at $75 billion. Combined with the cost of anti-pollution devices which may be required, even for low sulfur Western coal, the price will be much higher. If tax laws are changed to help the companies pay for this conversion, tax monies from all Americans will then be going to pay for this.

PRODUCTION OF SYNTHETIC FUELS HAS HARMFUL EFFECTS - While the use of synthetic fuels from coal can minimize the environmental effects of coal, the production of the fuels may have serious environmental effects. If the conversion of coal to liquid or gaseous fuels takes place where coal is mined, most probably in the West, the large amounts of water needed may not be available as a result of the scarcity of water in the area.

SURFACE MINING MAY BE HARMFUL - Surface mining, also called strip mining, can seriously disrupt the natural environment. Although recent federal legislation will force coal companies to restore the land used in surface mining, some damage cannot be avoided. Land reclamation demands large amounts of water, a commodity which is in short supply in the West. Water quality can also be degraded by acid draining from coal fields into streams.

INCREASED COAL USE CAUSES SOCIAL HARMS - As more coal is mined in the American West, local communities will feel the negative effects along with the benefits. Coal companies must acquire the land to be mined, displacing farmers and ranchers from their traditional lands. The influx of new workers, for construction and mining, can cause social problems from increased crime to greater needs for community facilities such as public schools.

Handout 2

COAL

PRESIDENT CARTER'S POLICY

President Carter's energy policy included the following proposals concerning the increased production and use of coal.

1. Increase coal production to one billion tons a year by 1985. This is almost double the current output.

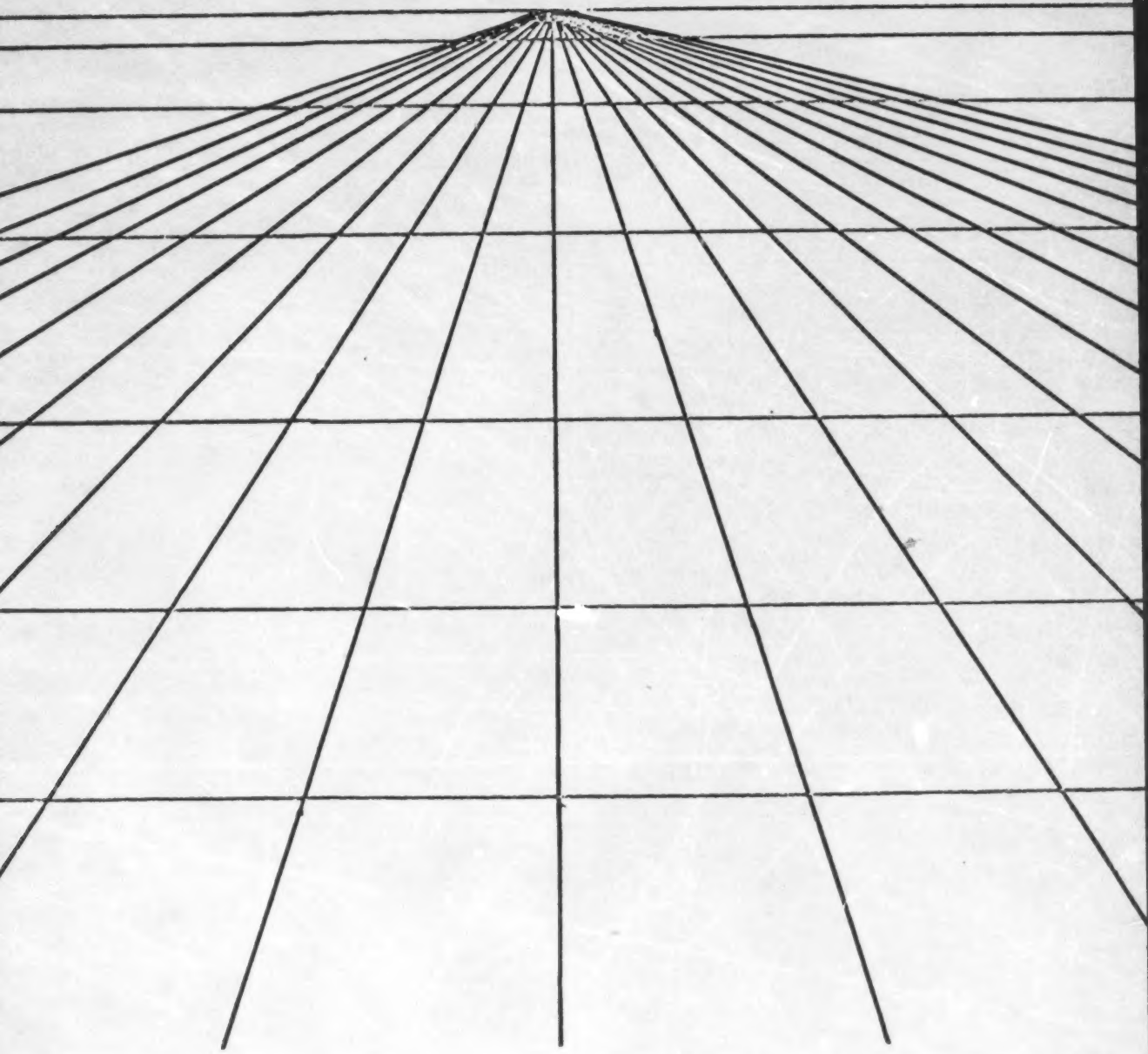
2. Industries which have not converted from natural gas or oil to coal will be taxed, beginning as early as 1979. For example, industries which use petroleum (other than power companies) would be taxed $.90 a barrel by 1985. Utilities, which need more time to convert to coal, would not be taxed until 1983, and then at a continuing rate of $1.50 a barrel. Users of natural gas would be taxed in a similar manner. Industries which must use natural gas, such as fertilizer manufacturers, would be exempt from the tax.

3. Industries that converted from oil and natural gas to coal would be eligible for a ten percent tax credit on the cost of new equipment. This would mean that ten cents of every dollar spent on the new equipment could be deducted directly from the amount the company was scheduled to pay for taxes. This will reduce the real cost of conversion somewhat for the companies.

4. Factories and utilities would be forbidden to burn oil and natural gas in newly constructed boilers unless the company could demonstrate that for some special reason they could not use coal.

5. Strict standards will be set to minimize the environmental effects of increased production and consumption of coal. Strip mining companies will be forced to return surface-mined lands to their original contours and will be restricted in their operations on prime farmlands and national forests. Clean air standards will be maintained by the use of pollution control devices at the industrial plants.

STUDENT ACTIVITY 5



QUESTIONS

Identify the types of plans that are presented. How do they differ in the near-, mid-, and long-term futures?

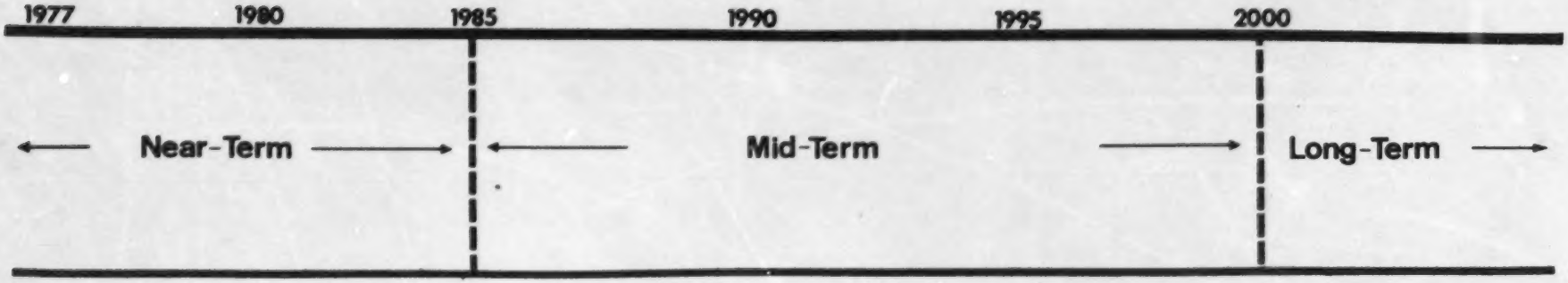
1. What are the government's energy plans for the near-term?

2. How does the mid-term plan differ from the near-term?

3. What is planned for the long-term? How do these plans differ from the near-term?

4. Why doesn't the government put all its effort into the development of a fuel source like fusion, which would produce all the power we could use for thousands of years?

5. When we looked at your plans for the future, we discussed the idea that the long-term plans must build upon the near- and mid-term ones. Does the federal energy plan do this?



NEAR-TERM STRATEGIES

Conservation of energy in buildings, for example, by using more insulation.

Conservation of energy in consumer products, such as the development of more efficient lighting.

Conservation in industry by using waste heat more efficiently.

Conservation in transportation by, for example, the development of higher mileage automobiles.

The substitution of coal for oil and natural gas in industry.

The development of recovery techniques which produce more gas and oil from existing wells.

Increased use of nuclear fission reactors for electrical power generation.

MID-TERM STRATEGIES

Development of synthetic fuels such as gaseous and liquid fuels from coal, and oil from oil shale.

Increased use of geothermal energy, the natural heat of the earth, which can be tapped and used for heating and electric power generation.

Development of economical solar heating and cooling systems.

Conversion of waste to energy by burning garbage to provide a supplementary fuel for power plants.

LONG-TERM STRATEGIES

Development of the technology which uses solar energy to produce electricity directly by using solar cells, large scale systems using concentrated solar energy, or wind energy conversion systems.

Development of a breeder reactor which does not use the limited supply of uranium, but instead makes the nuclear fuel which it uses.

Development of fusion power, which uses the power by which the sun and all stars obtain energy. This system uses heavy hydrogen, which can be obtained from all water as a fuel.

TOPIC	NEAR-TERM PRESENT TO 1985		MID-TERM 1985 - 2000		LONG-TERM 2000 - ?	
	Forecast	Plan	Forecast	Plan	Forecast	Plan
SOURCES OF INCOME						
MARITAL STATUS						
EDUCATION						
LARGE PURCHASES						

To fill out the chart above you should follow these two steps. (1) Think about what the future might be like for you and fill in your predictions under the column "forecast". One hint, keep track of your age in each of the three time periods. (2) Then, once you have decided on what the future will be like, fill in the column marked "plan". Here you should indicate how you plan on achieving the forecast that you have made. For example, if you plan on getting a specific job in the near term, then you should indicate how you plan on getting the job; any additional training you would need, etc. Try to be as specific in your forecasts and plans as you can.

An Energy Policy is Born

Presidential Advisors

How does a President make a decision? Some Presidents, like James Polk, seemed to want to do everything themselves. Polk wrote in his diary in 1848, "I prefer to supervise the whole operation of the government myself...and this makes my duties very great." Today, if a President even dreamed of running the entire government, his duties would be "very great" indeed. In the 1970s, Presidents have headed a government with more than three million civilian employees and with budgets of over $300 billion. The President, instead of making decisions alone, must rely upon a large number of men and women who assist him in the performance of his duties.

Historically, as the President's duties and responsibilities have increased, so too has the number of Presidential advisors. Now a President has a Cabinet of twelve members, each heading one of the twelve executive departments, such as the new Department of Energy; the Vice President; numerous independent agencies, such as the Environmental Protection Agency; and an Executive Office of the President. While Presidents make use of their advisors in different ways, most recent Presidents have made special use of their Executive Office. This group is more commonly called the White House staff and includes the President's personal advisors, assistants, councils, and staff members, each with a particular responsibility.

Picking an Energy Policy Staff

When President Carter made his promise to produce an energy policy by April 20, 1977, his White House staff became involved in a rush of policymaking activities during the next 90 days. Even before the inauguration, Mr. Carter had promised to form an energy department and had picked a special advisor on energy matters. His name was James R. Schlesinger, who had high executive positions under both Presidents Nixon and Ford, and was a trained economist. To assist him, Schlesinger assembled a staff of approximately twenty relatively young people with diverse backgrounds. While some of the staffers were energy experts, some were lawyers, businessmen, Pentagon veterans, and environmentalists. The organization was named the "Energy Policy and Planning Office," and was made a part of the White House staff.

The staff first identified key areas that would have to be researched in order to arrive at a comprehensive energy plan. Task forces were established and staff members began to gather information. When the materials on a certain area, such as conservation of energy had been gathered, a meeting would be held. Schlesinger tossed out ideas to the staff to get them to think, question, argue, and analyze. Staffers were expected to challenge ideas they thought would not work, even if their "boss" had suggested them. It was difficult and challenging work, with Schlesinger and his staff putting in twelve to fourteen-hour days.

The People Speak

The American people were also invited to participate in the process of making an energy policy. The first way the public was involved was termed a "town meeting by mail." An invitation to the American people to comment on and make recommendations for the President's energy plan was printed in *The Federal Register* on March 2, 1977. To assure the greatest response to this message, 600,000 reprints were sent out to interested citizens and organizations. By April 1, 27,898 letters, telegrams, packages, mailgrams, and position papers had been received. A special staff was brought in to read and tabulate the results.

A second avenue for obtaining opinions from the public opened with the holding of ten regional town meetings, conducted by the Federal Energy Administration. Over 800 citizens spoke at these meetings and this information was presented to Schlesinger and his staff. Finally, twenty-one "mini-conferences" were conducted by the Energy Policy and Planning Office at the White House. Groups of union leaders, oil people, builders and even nineteen "ordinary" citizens, chosen at random from around the country, conferred with the energy staff.

The Final Decision

Neither the energy staff, Schlesinger, nor the public would make the final decision on what the energy policy would contain. That was up to the President. As the staff collected information and made recommendations, Schlesinger presented Mr. Carter with "options papers." These would contain blocks of five to eighteen issues that needed a final Presidential decision. An example was the question of whether or not air quality standards should be relaxed to allow industry to burn coal without installing new anti-pollution devices. Schlesinger and his staff presented the issue to the President, giving him information on both sides of the question, along with a recommended decision. Although Schlesinger's recommendations carried great weight, the President had the final say.

The Energy Plan Reaches Agreement

The plan that Carter and Schlesinger agreed upon was introduced at a series of meetings with high-level Administration officials. Here opposition was expressed to one method used by the energy staff. Schlesinger's group had worked in almost total secrecy because they feared leaks to the press which might weaken the impact of the policy upon the public. The secrecy bothered Carter's economic advisors who claimed they did not have time to see how the plan might affect the nation's economy. In the first weeks of April, then, as Carter met with his top advisors and Cabinet members, some of the provisions of the plan were changed as other members of the Administration sought to reduce the plan's effect on the nation's economic growth.

As the deadline for announcing the plan approached, the staff began working almost around the clock. Some last minute decisions still had to be reached, the President's speeches to the nation and to Congress had to be written, fact sheets for the press had to be prepared, but still other meetings were needed. Congressional leaders from both political parties were asked by President Carter to support the plan and energy advisor Schlesinger met with forty House members who were thought to be likely opponents of the policy.

Getting Public Support for the Plan

While President Carter had to gain the support of members of his Administration and of Congress, he was also well aware of the need to gain the attention and support of the American people. To do so, the President organized a one week "media blitz" of highly publicized events to build support for the plan. Three appearances on national television were scheduled. On Monday, April 18, the President appeared on television seated behind his formal desk and explained the energy crisis as a possible "national catastrophe." Asking the American people to respond with the "moral equivalent of war" to the nation's dwindling energy supplies, the President did not give details of the plan. The tone of the speech, however, was a call to sacrifices from all Americans to leave "a decent world for our children and grandchildren."

Student Questions

1. While it is obvious that a President cannot always make major policy decisions by himself, could it also be true that a President's staff of advisors might get too large? What would be the result?

2. Members of the Cabinet, such as the Secretary of State, and those in the Executive Office of the President, such as James Schlesinger, advise the President on important matters. Members of the Cabinet, however, must be formally confirmed by the Senate, while Presidential advisors on the White House staff do not go through this process. Why is there a difference? Do you think that the practice should be changed? Why or why not? Where does the President get the authority to appoint members of the Cabinet? Why can you consider the Senate's power to "advise and consent" to Presidential appointments a form of the checks and balances.

3. Put yourself in the position of James Schlesinger. The following people have applied to be on the staff of the Energy Policy and Planning Office. Who would you hire? Rank the person you would hire first, by putting a (1) next to the background description. Put the number 2 on the line for the individual you would hire next, and so on. Then be prepared to explain your first and last choices in class.

_____A. A college professor presently developing a new method of collecting and storing solar energy.

_____B. A former government employee recently transferred from his job for criticizing the needless complications and waste in the agency for which he worked.

_____C. A former speech-writer for President Ford, who is experienced in writing summaries of reports for the President.

_____D. An employee of a "think tank," a research organization known for its progressive ideas, who can supply a steady stream of bold, innovative suggestions.

_____E. A political party figure who always agrees with his boss's ideas.

_____F. A businesswoman who is an expert at organizing people to get a specific task done.

4. Put the following events in chronological order:

A. Staff suggests specific solutions.
B. Candidate Carter decides that energy is a problem that needs a solution.
C. President Carter picks Schlesinger as energy advisor.
D. Key areas of energy problems are identified.

5. Why do you think the White House staff members needed to hear the ideas of the people? Did the staff expect people to have the same ideas? Can a President govern without the support of the people?

6. When you have to make a decision, do you often have to choose between more than one action? Give an example. Does the President of the United States have more to consider when he makes a decision? Give an example.

7. Why might officials in the Environmental Protection Agency (EPA) want to be consulted when a national energy plan is drawn up? What other government departments or federal agencies would want their views known before an energy policy is presented to Congress?

8. Explain why the Carter energy staff chose to work in secrecy.

9. Put the following events in chronological order:

A. President Carter makes his decisions about specific details of the energy plan.

B. The people are asked to send in their opinions and their solutions to the energy question.

C. Congressional leaders are consulted.

D. Cabinet members and top advisors meet and change some parts of the plan.

E. White House "mini-conferences" held.

10. What did the President mean by the statement that people should respond to the energy crisis with the "moral equivalent of war?" What other Presidents have declared war on domestic problems?

11. What additional steps would you take, if you were an administration energy staffer, to help "sell" the Carter energy plan?

12. Was it really necessary for the President to try to get public support for his energy plan? What if he had chosen not to do this?

The National Energy Plan
-an outline-

The Problem: The diagnosis of the U.S. energy crisis is quite simple: demand for energy is increasing, while supplies of oil and natural gas are diminishing.

The Nature of the Problem

How did this come about? Partly it came about through lack of foresight...As the result of the availability of cheap energy, the U.S. developed a stock of capital goods - such as homes, cars, and factory equipment - that uses energy inefficiently.

Oil is a non-renewable resource. Total recoverable world oil reserves past and present, are about 2 trillion barrels. If present trends continue, we will exhaust this supply before 2010-2020.

Strategies and Objectives

The U.S. has three overriding energy objectives:

1. immediate - to reduce dependence on foreign oil and vulnerability to supply interruptions.
2. mid-term - to keep U.S. imports sufficiently low to weather the period when world oil production approaches its capacity limitation; and
3. long-term - to have renewable and essentially inexhaustible sources of energy for sustained economic growth.

The salient features of the National Energy Plan are:

1. Conservation and fuel efficiency;
2. Rational pricing and production policies;
3. Reasonable certainty and stability in Government policies;
4. Substitution of abundant energy resources for those in short supply;
5. Development of non-conventional technologies for the future.

Conservation and fuel efficiency are the cornerstones of the proposed National Energy Plan. Conservation is cheaper than production of new supplies, and is the

most effective means for protection of the environment...If a conservation program begins now, it can be carried out in a rational and orderly manner over a period of years.

The energy goals for 1985 are:

1. Reduce the annual growth of total energy demand to below 2 percent;

2. Reduce gasoline consumption 10 percent below its current level;

3. Reduce oil imports from a potential level of 16 million barrels per day to 6 million, roughly one-eighth of U.S. total energy consumption;

4. Establish a strategic Petroleum Reserve of 1 billion barrels;

5. Increase coal production by two-thirds, to more than 1 billion tons per year;

6. Bring 90 percent of existing American homes and all new buildings up to minimum energy efficiency standards; and

7. Use solar energy in more than 2½ million homes.

In summary, the Plan would reverse the recent trend of ever-rising oil imports and ever-increasing American dependence on uncertain foreign sources of supply. It would prepare the U.S. for the time when the world faces a limitation on oil production capacity and consequent skyrocketing oil prices. It would achieve substantial energy savings through conservation and increased fuel efficiency, with minimal disruption of the economy, and would stimulate the use of coal in a manner consistent with environmental protection.

Various Facts and Features

Although coal comprises 90 percent of U.S. total fossil fuel reserves, the U.S. meets only 18 percent of its energy needs from coal.

The fuel choices now for electric utilities are basically coal and nuclear power. Expanding future use of coal will depend in large part on the introduction of new technologies that permit it to be burned in an environmentally successful manner, in both power plants and factories. Efforts should also be made to develop

and perfect processes for making gas from coal.

Light-water nuclear reactors, subject to strict regulation, can assist in meeting the U.S. energy deficit. The big problems for expanding nuclear power are health and safety concerns, lack of a publicly accepted waste disposal program, and concern over nuclear proliferation. The United States must continue to count on nuclear power to meet a share of its energy deficit.

Light water reactors provide a proven technology to produce needed electrical power. However, more advanced forms of nuclear power may entail significant risk, and must, therefore, be developed cautiously. The Government will give increased attention to light-water reactor safety, licensing, and waste management so that nuclear power can be used to help meet the U.S. energy deficit with increased safety.

To the extent that electricity is substituted for oil and gas, the total amount of energy used in the U.S. will be somewhat larger due to the inherent inefficiency of electricity generation and distribution. But conserving scarce oil and natural gas is far more important than saving coal...However, a study will be made of the long-term effects of carbon dioxide from coal and other hydrocarbons on the atmosphere. The Administration also supports uniform national strip mining legislation.

It is the President's policy to defer any U.S. commitment to advanced nuclear technologies that are based on the use of plutonium while the United States seeks a better approach to the next generation of nuclear power than is provided by plutonium recycling and the plutonium breeder. The U.S. will defer indefinitely commercial reprocessing and recycling of plutonium. The President has proposed to reduce the funding for the existing breeder program, and to redirect it toward evaluation of alternative breeders, advanced converter reactors, and other fuel cycles, with emphasis on nonproliferation and safety concerns.

To resolve uncertainties about the extent of domestic uranium resources, improvements are being made in the resource assessment of the Uranium Resources Evaluation Program.

America's jope for long-term economic growth beyond the year 2000 rests in large measure on renewable

and essentially inexhaustible sources of energy.

U.S. oil reserves = a 5 to 10 year supply.

Principles and Strategy of the National Energy Plan

Broad public understanding of the gravity of the energy problem, a commitment to action, and a willingness to endure some sacrifice are all indispensible to the success of a national energy plan.

(Note: Sacrifice is involved when a cherished perogative is given up.)

The ultimate question is whether this society is willing to exercise the internal discipline to select and pursue a coherent set of policies well in advance of a threatened disaster. Western democracies have demonstrated such discipline in the past in reacting to immediate, palpable threats to survival, as in time of war. But they have had less success in harnessing their human and material resources to deal with less visible and immediate threats to their political and economic systems. When dangers appear incrementally and the day of reckoning seems far in the future, democratic political leaders have been reluctant to take decisive and perhaps unpopular action.

Principles

The following 10 principles divide into two groups. The first five establish the context in which energy policy must be formulated. The remaining five are fundamental to the proposed comprehensive National Energy Plan.

1) The energy problem can be effectively addressed only by a government that accepts responsibility for dealing with it comprehensively, and by a public that understands its seriousness and is ready to make necessary sacrifices.

2) Healthy economic growth must continue.

3) National policies for the protection of the environment must be maintained.

   - Virtually every available source of energy has its disadvantages.
   - There will be increased funding for projects researching technologies for reducing the environmental drawbacks to large scale use of coal.

4) The U.S. must reduce its vulnerability to potentially devastating supply interruptions.

5) The U.S. must solve its energy problems in a manner that is equitable to all regions, sectors, and income groups.

6) The growth of energy demand must be restrained through conservation and improved energy efficiency.

   - Wasted energy-in cars, homes, commercial buildings and factories-is greater than the total amount of oil imports
   - America needs to embrace the conservation ethic.
   - Reduction of America's demand for world oil will be a form of assistance to the developing countries.

7) Energy prices should generally reflect the true replacement cost of energy.

   - Electric utilities will be required to phase out promotional, declining blocks and other rates that do not reflect costs; gas utilities would also be required to phase out declining block rates.

8) Both energy producers and consumers are entitle to reasonable certainty as to Government policy.

   - In order to be able to provide certainty and consistency in energy policy-making, the Federal energy agencies should be organized into a Department of Energy.

9) Resources in plentiful supply must be used more widely, and the nation must begin the process of moderating its use of those in short supply.

   - Coal constitutes 90 percent of U.S. conventional energy reserves, but currently supplies only about 18 percent of energy consumption.
   - Coal development and production is most economical when it is near major markets.

10) The use of non-conventional sources of energy must be vigorously expanded.

The Broad Perspective

The three overriding energy objectives are:

1. immediate - to reduce our dependence on foreign oil and thus limit our vulnerability to supply interruptions.

2. mid-term - to weather the stringency in world supply that will be caused by limitations on productive capacities.

3. long-term - to develop renewable and essentially inexhaustible sources of energy for sustained economic growth.

The Strategy

The strategy of the Plan contains three major components to achieve these objectives:

1) To carry out an effective conservation program.

2) To provide the incentives necessary to cause those industries and utilities using oil and natural gas to convert to coal and other abundant fuels.

3) To pursue a vigorous research and development program to provide renewable and other resources to meet U.S. energy needs in the next century. The Federal Government should support a variety of energy alternatives in their early stages, and continue support through the development and demonstration stage for technologies that are technically, economically and environmentally most promising.

In the area of non-conventional sources and energy research, increased funding is proposed to accelerate the development of economic photovoltaic systems. Longer term development is proceeding on central station solar electric power systems. The Plan's research and development program includes increased funding for biomass, small wind systems, solar cooling, and other solar technologies. In addition, the Plan's research and development program provides additional funding to further the use of municipal solid waste and geothermal energy.

Research in controlled thermonuclear fusion has been a major element in energy research and development programs. However, despite many years of active research, scientific feasibility has yet to be demonstrated, though steady progress has been made in satisfying each of the individual criteria for achievement of breakeven power (the production of more power

than is consumed).

Current research on magnetic confinement systems seeks to demonstrate the simultaneous attainment of temperature, density, and confinement time necessary for breakeven. Inertial confinement (laser or beam) systems, a newer technology, may lag behind magnetic systems in achieving breakeven power. Once a demonstration of breakeven is made, extensive engineering efforts would be required to design a commercial system.

However, even without achievement of breakeven power, either fusion system may be able to produce usable energy as part of a hybrid fusion-fission cycle. The fusion process produces neutrons which might breed fuel for light-water nuclear reactors more easily than it produces electricity.

The revised budget submitted by the administration last February provides for continued work on fusion on an orderly basis.

THE ROLE OF GOVERNMENT AND THE AMERICAN PUBLIC

Government at all levels has a critical role to play in guiding the course of energy production and use. In addition to proposing specific initiatives, the Federal Government should:

- establish clear national energy goals;
- organize itself to administer national energy policy effectively;
- create a comprehensive, reliable repository of energy information;
- ensure competition in the energy industries generally and among the major oil and natural gas companies in particular; and
- provide assistance to low-income people during energy emergencies.

State and local governments will be asked to assume major responsibilities in cooperation with the Federal Government. Non-governmental organizations and individuals can also make significant contributions to the success of energy policies. The private sector will continue its primary role as the major producer and consumer of energy resources.

THE DEPARTMENT OF ENERGY

Although organizational changes alone will not solve

any energy problem, creation of a Department of Energy is a necessity if the elements of the National Energy Plan are to be carried out in a coherent and effective manner. Only through creation of a Department that combines the skills and expertise now dispersed through numerous federal agencies will the Government obtain the comprehensive overview of interrelated energy problems and the organizational coherence needed to implement the National Energy Plan.

An Energy Information Administration within the Department would organize and analyze information so that it could be used by governments, industry and the public...Accordingly a three-part energy information program is proposed. It would include a Petroleum Production and Reserve Information System, a Petroleum Company Financial Data System, and an Emergency Management Information System.

For the Petroleum Production and Reserve Information System, the Federal Government would assume the data collection responsibilities now performed by the American Gas Association and the American Petroleum Institute. The oil and gas industries would be required to open their reserve estimation processes to Federal officials, who would supervise the collection and preparation of reserve data.

The Petroleum Company Financial Data System would require all large companies and a sample of small firms engaged in the oil or gas business to submit detailed financial information to the Federal Government...The reporting program would restore confidence within the Congress and among the American people that the Government, not only the oil industry, is in charge of national energy policy.

The Emergency Management Information System would provide governments with up-to-date information on local energy supplies and consumption. Such information is needed to respond if there should be an interruption of foreign oil supply, a natural gas shortage, or other energy emergencies.

COMPETITION

Promotion of competition is a critical component of public policy. Since energy is an essential commodity for all Americans, effective competition within the energy industries is a matter of vital concern.

Public policy toward vertically integrated firms, those that span exploration, production, refining,

and marketing of petroleum products, has long been a matter of dispute.

Horizontal diversification by oil and gas producers, particularly into the coal and uranium industries, has led to concern that the major firms will be able to restrict the development of alternative energy sources.

STATE AND LOCAL GOVERNMENT PARTICIPATION

A National Energy Plan can be built only on a foundation of partnership and understanding among the Federal Government, the states, local governments, and the nation's Indian tribes, which regulate or own a substantial part of U.S. energy resources.

PUBLIC PARTICIPATION

The general strategy of the National Energy Plan reflects the tenor of comments received from the public during the preparation of the Plan. As a general matter, members of the public who expressed views preferred voluntary to regulatory measures, though not uniformly so. The public placed strong emphasis on conservation, stockpiling of oil to reduce vulnerability, and development of solar energy and other renewable or essentially inexhaustible resources. The Federal Government will sponsor additional town meetings and other public events to encourage citizen comment on national energy policy.

Schools can help young poeple understand the energy problem and develop the conservation ethic. (emphasis ours)

THE FUTURE BEYOND 1985

The United States will need to pursue research and development on all promising options to determine whether any of them can fill the petroleum gap.

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